THE

ECLECTIC REPERTORY

AND

ANALYTICAL REVIEW.

VOL. VIII. APRIL, 1818. No. II.

SELECTED PAPERS.

An account of some remarkable Symptoms, which were connected with a Painful Affection of the extremity of the Left Thumb, together with the mode of treatment. By JOHN PEARSON, Esq. F. R. S. F. L. S. M. R. I. Senior Surgeon of the Lock Hospital, &c. &c.

[From the Medico-Chirurgical Transactions, Vol. VIII. Part 1.]

LADY ——, aged eighteen years, was attacked suddenly by an acute pain on the inner part of the left thumb, near to its extremity, on the 14th of November, 1814. The pain extended gradually to the first articulation; but it was unattended by redness, tumefaction, or any other visible character of disease. The lady supposing that this acute pain indicated the commencement of a whitlow, immersed her thumb in hot water, several times in the day; and deriving no relief from this, she applied a poultice of bread and milk, which seemed rather to aggravate her sufferings. After the lapse of about fourteen days, she consulted a surgeon, who directed two leeches to be applied on the affected part, and the poultice to be continued.

On the following day the thumb became inflamed and swollen as far as the second joint, and had acquired so high a de-

gree of sensibility, that Lady —— experienced a most severe pai from the slightest touch, and the muscles of the part were no longer capable of voluntary motion. The fore-finger of the same hand soon became disordered by a similar affection, was morbidly sensible in a high degree, and its muscular powers were equally obstructed. The three remaining fingers of the left hand were gradually subjected to the agency of this disease; they participated slightly in the morbid sensibility of the thumb and fore-finger, but their flexor muscles became so much contracted, that the nails of the fingers were pressed forcibly against the palm of the hand; they were no longer under the control of the will, and every attempt made to extend them, was attended with insupportable pain.

This disease proceeded by degrees, from the thumb and fore-finger, to the fore-arm; the skin and muscles became painfully sensible, the joint of the elbow was contracted; and in a short period of time, very little power of voluntary motion remained in the brachial muscles, from the shoulders down to the hand. Lady —— was now obliged to suspend her arm in a sling; the sensibility of the whole limb had become inexpressibly distressing; the bulk of the arm likewise diminished gradually; so that in the space of about three months, it was reduced not less than one inch in its circumference, between the elbow and the wrist. The right arm became, by insensible degrees, involved in this extraordinary morbid affection; it acquired a painful sensibility, and a considerable diminution of its muscular powers. Lady —— was not indeed obliged to support it with a sling, but the debility was such, as to render her unable to use a pen; and had she been capable of this effort, the pressure necessary for the sustaining and employing of so light a substance, would have excited an insupportable access of pain. The right arm never exhibited any discoloration, intumescence, nor indication of atrophy; it admitted also of such motions as did not expose any part of its surface to external pressure; she likewise enjoyed occasional intervals of relief from suffering, extending from twenty-four to forty-eight hours; yet, even during these periods of comparative ease, she was quite disabled from raising a small weight, or using any exertion that required the compressing of a solid body.

In the course of a few weeks from the commencement of this disease, her ladyship began to complain of pain and debility in the lower extremities: this morbid condition of these parts allowed of frequent intermissions; but whenever she was suffering from an omission of pain, she was rendered incapable of walking. During the intervals of these attacks, she experienced a great weakness of the lower extremities, and nearly an inability of locomotion, being incapacitated from using exercise for more than a few minutes, at any one time.

From an early period after the attack of this disease, and while it was making an alarming progress, her ladyship was attended by very respectable professional gentlemen, who resided in her own neighbourhood; she occasionally derived a temporary benefit from their assistance, but the more prominent symptoms of her complaint were not subdued.

Early in the Spring of 1815, Lady —— was removed to Edinburgh, and had the advantage of consulting some of the most eminent physicians and surgeons in that city. Various tonic and antispasmodic medicines were prescribed, and different topical applications were employed; but no considerable relief was derived from any of them. She was then advised to take mercury in small doses, with a decoction of sarsaparilla, and from these remedies she seemed to obtain some benefit; but her appetite becoming quickly impaired, and her strength visibly decreasing, she soon abandoned this course of medicine, it being judged expedient to forbear from any further trial of mercury.

It having been recommended to her ladyship to have recourse to cold bathing, she used the shower bath, and likewise went to the west for the convenience of immersion in the open sea. She was commonly refreshed and invigorated by bathing; yet, notwithstanding the partial advantages which resulted from these means, the pain, spasms, and morbid sensibility of the superior and lower extremities continued to harass her ladyship with unabated severity. In the month of Feburary, 1815, the case of Lady —— was transmitted to me, and I was favoured with some correspondence on the subject by Mr. George Bell, surgeon in Edinburgh, in the month of March;

but these epistolary communications were not productive of any important benefit to her ladyship.

In the month of August, 1815, the Countess ——, her mother, having relinquished almost all hope of her daughter's recovery, determined to place her under my immediate care; and the young lady being quite unequal to the circumstances of so long a journey in a carriage, she was sent to London by sea, in the beginning of September.

Lady —— was greatly refreshed by the sea air, and the voyage had contributed to improve her appetite and exhilarate her spirits; but the original symptoms of her disorder continued much in the same state, as before her departure from Scotland. At my first visit, September the 6th, I found the left arm considerably wasted; the thumb and fore-finger not contracted, but so exquisitely sensible, that they could not endure the pressure of the slightest substance; the three contiguous fingers were inflected, firmly, into the palm of the hand; the joint of the elbow was contracted, and the whole arm had become preternaturally and painfully sensible to every impression. The right arm had acquired a high degree of sensibility, and was extremely weak; but there existed no contraction of any joint, nor conspicuous atrophy of the limb. I learnt also, that in addition to the unceasing state of suffering to which her ladyship had been so long accustomed, she had extraordinary accessions of pain and spasm, during several hours, every two or three days; and that, on these occasions, the muscles of the forehead and face were so much disturbed by convulsive motions, as to change considerably the natural appearance of her countenance. At this time the health of Lady —— was delicate, but not sensibly impaired: the catamenia more regular, yet rather too abundant, and sometimes approaching to menorrhagia; under these circumstances there commonly occurred an exacerbation of her local complaints. She suffered likewise from leucorrhea, and her bowels were generally confined, requiring the occasional assistance of gentle aperients.

On contemplating the present state of Lady ——, in conjunction with the written narratives which had been transmitted to me, I was confirmed in the opinion which I had previously formed, that the several distressing symptoms which afflicted

her ladyship, were immediately connected with a morbid condition of the nerves distributed to the extremity of the thumb. As every attempt to elevate and extend the three contracted fingers, met with much resistance and excited considerable pain, I was desirous of ascertaining whether those two circumstances were to be attributed chiefly to a rigid state of the joints, or to a permanent spasmodic state of the flexor muscles. To gain information on these points, I stimulated the surface of the skin covering the muscles on the inside of the fore-arm, very gently with a piece of thick gold wire, the point of which was blunted; and was agreeably surprised to find, that by continuing this process during a few minutes, the fingers were raised spontaneously, from the palm of the hand, without exciting any sensation of pain. On discontinuing the mechanical stimulant, the fingers gradually resumed their habitual state of contraction. I repeated this experiment on three or four successive days. At the first, the sensation produced by the irritant was not disagreeable; but on each succeeding trial, after the first day, it induced a sense of uneasiness and fatigue in the parts affected, which became at length almost insupportable; nor was the degree of relaxation, subsequently remarked in the flexor muscles of the fingers, nearly equal to that which was conspicuous on its first application.

Lady —— was now directed to take some tonic medicines, and various powerful narcotic applications were made to the thumb, and to the hand; but no sensible benefit was derived from them.

During the course of many years' practice, several cases of the local affection of a nerve or nerves, accompanied by muscular spasms, had occurred, and had often proved very untractable. I was at length induced to attempt the cure of these painful complaints, by inflicting a disease, which should extend over a large portion of the surface of the body; and which, after exciting a series of actions in the skin, should finally cause an extensive eruption, attended with the usual concomitants of certain exanthemata. The disease from which this young lady was suffering, having resisted, hitherto, all the efforts of professional skill, and as the most serious consequences were to be apprehended from its continuance, I thought myself justified

in adopting a mode of treatment, which, although painful and inconvenient, was unattended with danger, and would leave no unfavourable impression on the general constitution.

I directed a stimulating liniment * to be rubbed during ten minutes, twice in the day, over the whole circumference of the upper part of the arm, beginning immediately below the joint of the shoulder, and included a space bounded by the inferior extremity of the deltoid muscle. No local effects upon the skin being perceptible at the end of three days, I added half a drachm more of the sulphuric acid to the composition, and desired that it might be applied three times in the day. This application was first used on September the 23d, and on the 5th of October the upper arm began to look red, and was more painful than usual. I had given express directions, that on the first appearance of redness and tumefaction of the part, the further application of the liniment should be suspended; but the young lady, anxious to derive all possible advantage from this medicament, succeeded in prevailing on her attendant to persist in applying it. The liniment was accordingly used during the incipient state of inflammation, and in the space of little more than an hour, the whole arm, from the shoulder to the hand, was red, heated, tumid, and very painful. These symptoms became gradually more intense, and were diffused more extensively, increasing progressively during five days. Within this period, a number of small vesicles containing a pellucid fluid appeared on various parts of the arm; the face became swollen as in the acute erysipelas, and vesicles were distributed on different parts of its surface; the cellular membrane of the eyelids was likewise so much distended as to obstruct vision completely. The whole surface of the body, indeed, partook of these morbid appearances; but the vesicles were scattered very sparingly over the trunk and lower extremities.

* ℞ Olei Olivæ ℥iiss.
——— Terebinthinæ ℥iss.
Acidi Sulphurici ʒi. M.

I have been more than thirty years accustomed to use this liniment in various complaints, especially in those of the joints. I inserted it in the Pharmacopœias of the Lock Hospital, and of the Public Dispensary, when I first became connected with these institutions.

During the progress of this exanthematose affection, Lady —— maintained her accustomed fortitude and cheerfulness; and although her pulse was much increased in frequency, her sleep was greatly interrupted, and she was considerably incommoded by the local irritation, yet her health did not appear to be materially disordered. On October the 12th, the heat, redness, tumefaction, and uneasiness of the arm, were so much diminished, that her ladyship obtained some refreshing sleep on the sofa, and from this period she recovered visibly every day. About the fifth day after the appearance of this cutaneous disease, Lady —— observed her thumb to be agitated by a spontaneous motion, unattended with pain: this excited some degree of alarm in her mind, but she was most agreeably surprised to find, that on touching her thumb, the morbid sensibility was gone, and she could hold it with the fingers of her right hand, without exciting any sense of uneasiness.

The thumb and forefinger of the left hand, having now lost their morbid sensibility, they became gradually capable of regular voluntary motion: the disease was removed, and the affected arm and hand were acquiring strength and regaining daily the facility of performing their customary actions. The salutary change in the three contracted fingers, was not very sudden; they relaxed, however, by slow degrees, but the ring-finger and the little finger did not resume their natural appearance and regular power of action till after the lapse of five or six weeks. The contraction of the elbow-joint amended slowly, but at the expiration of little more than two months from the application of the rubefacient, all appearance of the disease had vanished; the hand and arm had nearly regained their former bulk and form; and Lady —— has enjoyed good health, with perfect freedom from every symptom of her complaint, since the beginning of the year 1816, to the present period.

As a conclusion to this paper, I beg leave to subjoin a few observations connected with this subject. The records of medicine and surgery contain a multiplicity of narratives of extraordinary symptoms resulting from pressure on particular nerves; from various injuries inflicted on them, and from morbid alterations in the structure of these organs of sensation. We likewise possess reports of the several modes of treatment

adopted, some of them suggested by reasoning, others derived from observation, or from accident; yet a large proportion of them tending to show how unavailing the best directed efforts of our art frequently are, in conferring permanent relief on the patient. In the year 1795, I published a paper containing accounts of some extraordinary symptoms arising from pressure, &c. on certain nerves, in the Sixth Volume of the "Medical Facts and Observations." At that period, I was unacquainted with the particular method of treatment which has been described in the preceding history; nor do I conceive that it was applicable to the cases recorded in that paper.

It must have occurred to every person conversant with physiology and pathology, that the morbid sensations and disordered actions which are often consequent on the agency of an external cause, or on a diseased condition of the sentient organs, exhibit considerable variety in the phænomena. A nerve may suffer injury from the infliction of a wound from a laceration, or a contusion, forcible elongation without any solution of continuity, mechanical pressure, from chemical agents, including heat and cold, from a change of its structure, conspicuous to the senses, and capable of being displayed by anatomical examination; it may likewise exhibit a deviation from its natural functions, for which no preceding cause can be assigned, and where nothing unusual in its appearance or organization has been detected by subsequent dissection. These circumstances, with many others, which might be enumerated, seem to warrant the suspicion, that the diversified phænomena which are consequent on the several impressions made on one or more branches of particular nerves, may imply some existing difference in the previous condition of the sensitive organ whence they are derived; that the various and often dissimilar symptoms may depend on some specific physical modification of the morbid part, or of those connected with it by a proximate union; or that the morbid state is controlled by the laws of consent or sympathy. If there be any foundation for these conjectures, then it may be regarded as probable, that a correct acquaintance with the symptoms which are peculiar to each form of the disease, would conduct to a more methodical and successful mode of treatment.

That mode of sensation which is commonly designated by the term pain, implies the state of corporeal uneasiness or suffering, experienced by a percipient being; and pain being usually conjoined with certain adjuncts, which are objects of distinct consciousness to the patient, our common language is competent to express in a very great number of instances, not merely the measure, but likewise the distinguishing qualities or circumstances which indicate a specific difference in the uneasy sensation. These discriminating characters are most obvious in parts where there exists a great dissimilarity of structure, and in organs which are appropriated to the execution of very different functions; to which may be added, the modifications that are derived from the various existing causes, whether remote, or proximate.

It is not unknown to persons conversant with much practice, that pain may be accompanied with a sensation of heat or cold; of distention or contraction; of torpor, laceration, comminution; that it may be pungent, lancinating, pulsating, or attended with convulsive motions, rigid muscular contraction, fainting, &c. A practical application of our knowledge of the several concomitants of pain, may assist us in forming a correct diagnosis of the morbid alteration that has taken place in the seat of a disease; and it may sometimes prove a most valuable and important guide, when it is necessary to carry our inquiries into the nature of a complaint which exists in parts that are removed from the immediate scrutiny of the senses.

In the preceding narrative, it is stated, that the pain and morbid sensibility were accompanied by a permanent spasm in the three fingers, and in the joint of the elbow; and, by interrupted convulsions, in other affected parts; yet, as the *spasmi tonici* could be readily suspended by gently irritating the cutaneous nerves of the inner part of the fore-arm, I did not regard the condition of these flexor muscles, as indicating any essential difference in the nature of the case, or requiring any peculiar attention in directing the mode of treatment. I had learnt from long observation, that, in certain morbid affections of particular nerves, when the topical remedies designed to promote relief, were applied immediately, to the primary seat of the disease, they commonly failed of conferring benefit on the

patient; and I believe, that unless in those instances where the malady is derived from some mechanical cause acting upon a nerve, situated within the range of an operation, the division of the sentient organ is not generally effectual in removing the distressing symptoms. It has been frequently remarked, and my own experience confirms the truth of the observation, that where a serious accident, such as the infliction of a large wound, an extensive burn, the invasion of a disease affecting the whole surface of the body, or greatly disordering the functions of the animal economy, has occurred to persons infested by convulsive maladies, a temporary suspension, and not unfrequently a permanent cure of these complaints has been the salutary consequence. In the course of contemplating facts like these, and combining them with the phænomena resulting from the agency of counter-stimulants, employed in diseases which are situated both externally and internally, I was first induced to try the powers of medicaments applied at a distance from the part referred to, as the primary and immediate seat of pain; and likewise to attempt the making a powerful impression on the surface of the body, consisting of a regular succession of actions on the skin, bearing some analogy to the progress of exanthematose affections. This curative progress is more peculiarly applicable in diseases conjoined with the morbid state of a nerve, where there is reason to presume, that the part referred to as the source of the symptoms, is in reality the original seat of the malady.

When a punctured wound is inflicted on one of the toes, or a finger, by a small and sharp instrument, as a needle, or the fine point of a pair of scissors, a filament of a nerve is sometimes injured. The minute wound commonly heals immediately; but the muscles of the limb frequently become subject to spasmodic affections, during many months after the infliction of the injury, and the skin, with the subjacent parts, indicate a preternatural sensibility when pressed upon. In one of these cases, where the arm and hand of a young lady had become nearly useless, and the symptoms had been combated by all the usual remedies, in vain, during twelve months, the patient was cured by the application of the liniment, which excited a considerable tumefaction of the whole arm, with a vesicular

eruption. It was necessary, in this case, to produce the cutaneous disease three times, at intervals of about a week, and it never extended beyond the upper extremity. In some cases, likewise, of painful contractions of the large joints, which were unaccompanied by inflammatory symptoms, or any remarkable change in the structure of the parts, a similar mode of treatment has been attended with complete success, after the common methods of cure had been employed, during many months, without the least advantage. I think myself warranted to insist on the cutaneous excitement, with its concomitant appearances of tumefaction, and of an eruption, more or less extensive, as circumstances essential to the obtaining of a cure in these peculiar affections of a nerve. It is proper to mention in this place, that there exists a very striking difference in the susceptibility manifested by the skin of persons suffering from these complaints. In some patients it is so irritable, that the concurring symptoms produced by the rubefacient appear in the course of two or three days; whereas ten days or a fortnight may elapse before any heat, redness, or tumefaction shall be seen in others; and in a few instances, no sensible change on the surface of the skin, nor any beneficial alteration, has occurred from a long continued application of the liniment. It is, by no means, my intention to speak of this compound, as possessing any specific or peculiar qualities which give it a superiority over every other rubefacient; but I merely represent this formula, as being the application which has succeeded more certainly and beneficially than any other stimulating medicament that I have employed. Cantharides, tartarized antimony, a solution of gum ammoniac in the vinegar of squills, and sometimes euphorbium, &c. are capable of exciting cutaneous irritation very extensively; but I think these effects occur with less certainty, are not so durable, nor of equal efficacy, as when the compound sulphuric liniment is used. Neither the mode of treatment which I have now recommended, nor any other method yet made public, can be expected to succeed in every case, where a nerve is morbidly affected; but I believe, that the liniment may be always employed without danger, and very frequently with the most desirable result, provided the direc-

tions suggested in this paper, be conformed to strictly, and with a judicious constancy.

This mode of treatment is not applicable to that diseased condition of the nerves, in which a conspicuous morbid alteration is discernible in their structure; where little tumours, resembling noduli, are found in some of the largest ramifications of these organs of sense, connected with pain, lameness, muscular spasms, and sometimes with atrophy of the disordered limb. The existence of tumours, thus situated, has been noticed by different writers *; but I am not aware that a satisfactory account has been presented to the world, of the differences which subsist in these productions, and of the rise, progress, and ultimate change of structure which occurs in nerves when infested by such diseases.

I am not authorized by experience, to offer any information on the effect of this mode of treatment in cases of the *tic douloureux;* when nerves proceeding immediately from the cerebrum are the subjects of this painful disease, temporary relief is often conferred, and sometimes permanent benefit has been obtained by dividing the nerve whence the suffering seemed to be derived; but it must be likewise acknowledged, that this operation has often failed of curing the disease. In an instance, where the painful affection was referred to one finger, the patient was relieved by the amputation of the part; but a similar disease soon attacked one of the fingers of the other hand. The nerves distributed to different parts of the face have also been successfully divided, until very little of the surface of the skin remained, which had not been subjected to the operation. I never saw any real benefit derived from the division of a branch of a nerve, in either the upper or lower extremities, unless in those cases where the agency of a mechanical cause, or some well-defined change of structure existed. When no deviation from the natural condition of the part can be detected by the most able and accurate examination, and when parts at a distance from the immediate seat of the pain, sympathize on every accession of the paroxysm; there is ground for presuming, that the source of the malady resides in some other por-

* Vide Med. Facts and Obs. loc. cit. See also Portal, Anat. Medicale. The Edinburgh Medical and Physical Journal.

tion of the nervous system, and that the division of the nerve in the part whence the pain seems to originate, may prove rather injurious, than beneficial. This unfavourable issue of an unsuccessful operation, is not an assumption founded on mere reasoning or analogy: cases have occurred, where the patient has not only been disappointed of relief, but the irritation has been transferred, subsequently, to the spinal marrow and the brain.

On the Effects of the Nitro-Muriatic Acid Bath in several Surgical Diseases. By G. J. GUTHRIE, Deputy Inspector of Military Hospitals, Lecturer on Surgery, &c. &c.

[From the London Medical Repository, for December, 1817.]

DURING the last two years, at the recommendation of Dr. Scott, we have tried the nitro-muriatic acid bath, in the York Hospital, Chelsea, in a variety of cases, both medical and surgical; especially in those where the use of mercury was supposed to be indicated, and where it had failed of producing a good effect, or had been obviously detrimental.

The manner of using the bath, as well as the proportions of acid, were varied; it was tried as a pediluvium, as a bath to the lower extremities, or to the whole body; of a strength to turn the skin and nails yellow, to produce the pricking sensation that has been attributed to it, as well as an eruption of pimples that were equally disagreeable; and it has been used so diluted, that many patients have immersed the body to the head every other day, and occasionally every day, from fifty to eighty times, without perceiving any sensations upon the surface whatever, except those which are equally produced by water of the same temperature; that is, from 90° to 95° Fahr.

In our first trials the acid was used in the proportion of three parts of nitric to one of muriatic; and the acid so mixed was not measured, but poured into the warm water until it became very sour: this changed the colour of the nails, and was only used as a pediluvium. By the advice of Dr. Scott, it was used in the proportion of eight ounces to forty gallons, and sub-

sequently to twenty gallons, when it was employed as a bath; and with these proportions the greater part of our experiments were made. In particular cases, and especially at a later period, it has been used considerably stronger, with equal portions of the two acids, and with three parts muriatic to two of nitric, the quantity of acid being increased to twenty ounces in twenty gallons of water, and even to two ounces to the gallon.

Having thus noticed the composition and manner of using the bath, it is desirable that the general effects should be next specified, according to the different proportions of the acids to each other, to the water, and to the surface of the body exposed to its influence: but this becomes exceedingly difficult, if not impossible, from the circumstance of its not producing any perceptible effect on many persons on whom it has been tried, in whatever proportions it has been used, except what might be equally attributed to the warm water alone. I beg, however, not to be misunderstood. I do not mean to imply that the remedy has no powers; on the contrary, it does occasionally produce particular effects which are not usually attributed to water alone; yet I wish to give it as my opinion, that no dependance can be placed on any particular proportion, and that it is very uncertain in its operation: although I am disposed to believe, what I think many will as willingly concede, that the larger the surface to which it is applied, provided it be not of a strength to affect the skin, the more certain will be its effect. It naturally follows, as a conclusion, that I can have little or no reliance upon simple immersion of the feet and hands. At present I recommend the bath, where there are no abraded surfaces, to the whole body, except the head, in the proportions of half an ounce to an ounce of the equally-mixed acids to a gallon of water, at the temperature of 90° to 95°, according to the strength of the patient. If he have not strength to bear a warm bath of that heat for fifteen or twenty minutes, or the use of it is inconvenient, I desire the person to sit down in it; and if it be used with the view of relieving pains in the legs and thighs, I sometimes confine myself to the immersion of the parts affected.

I have said the remedy sometimes produces no effect, or a permanent effect which can be discovered the day after its use;

yet the complaint for which it has been recommended shall slowly subside or disappear, whilst in other instances it shall remain stationary, or gradually get worse. In all these cases I am aware it may be said that no effect has in reality been produced, but that nature has caused the amendment or deterioration by her own efforts, either properly or improperly directed: but I dissent from this proposition, because I have seen in many of these cases the good or bad result too evidently depend on the use of the remedy, not to believe that it had a principal share in producing it.

In general, the acid bath increases the quickness of the pulse, causes, like the warm bath alone, a general relaxation of the body, and, if continued, may produce syncope. On coming out of the bath, a variety of sensations, in the same manner, may or may not supervene. When it agrees with the patient, there is no perceptible effect, save a greater redness of the skin than what the warm bath occasions. In others, there is swiming of the head, nausea and even absolute sickness, general uneasiness; and, in several cases where there has been a predisposition to it, the testicle has suddenly swelled, become painful, and even inflamed; and this has again occurred on a repetition of the bath after a certain interval of time. The repeated use of the bath sometimes occasions a degree of general excitement, the pulse quickens, the tongue becomes white, the patient feels uneasy, or, as he expresses it, a little feverish: in such a case it must be discontinued. In others, after a continued use of it, the patient looks pale, loses flesh, and is certainly debilitated. In some cases the immersion at once produces a sensation of the mouth in an increase of saliva, and in others the flow of it is more permanently increased: on examination, the gums look red and swelled, although not affected in the same way as by mercury, neither does the mouth emit the same fœtor. This state of the mouth and the increased flow of saliva, must be considered as symptoms which do not occur after the use of the warm bath; but there is another and principal effect, which much more commonly, indeed I may say generally, follows its use; that is, a greater degree of regularity and increase in the alvine evacuations, and sometimes a greater desire for passing urine, than has been experienced for some time,

although there may not be an increase in the secretion of urine. As Dr. Scott has truly remarked, in people who are disposed to a naturally large secretion of bile, the quantity for the time seems increased, and may require the aid of purgatives for its removal. In those where the secretion of bile appears to be deficient, in consequence of derangement in the action of the liver, its effects are in many instances more remarkable than those I have observed to follow the use of other remedies: it gradually increases the secretion of bile, restores in consequence the proper action of the intestinal canal; the evacuations become more regular, more natural in colour and consistence, and the functions of the digestive organs are altogether improved. In some cases it even proves completely purgative. I am not, however, prepared to say that this happy change, when it does occur, will continue; on the contrary, I am disposed to believe it is only a temporary amendment; and that, when there is truly organic disease or derangement of structure, these good effects will soon cease, although they may, after an interval of time, be again induced by a repetition of the remedy.

In one case this was shown in a remarkable degree. The patient had had the Walcheren fever during the expedition to that island, and had suffered ever since from visceral disease, with great and solid enlargement of the abdomen; his bowels were very irregular, an evacuation taking place only once in two or three days. Shortly after he had commenced the use of the bath, the bowels became regular every day, and continued so for some time; but they gradually returned to their former state, although the bath was continued, and the man, finding that no permanent benefit was obtained, preferred going home to his friends in the country.

In another case the patient had been ten years at the Cape of Good Hope, had suffered considerably from inflammation of the liver, and for the last five years had been constantly unwell. He laboured under severe pain in the epigastric and both hypochondriac regions, which was much increased at intervals; he was unable to lie on the left side, and had occasional spasms of the abdominal muscles, with so great a soreness of the surface as hardly to allow the slightest pressure. There was a sense of great weight in the right hypochondrium, a sallowness

of countenance, loss of appetite, and general appearance of ill health.

This man took a variety of medicines, principally mercury and laxatives, as his bowels were always irregular and confined, and the warm bath was used to try the comparative effect of it and the acid bath; but, although persisted in for six weeks with much benefit, still it had no effect on the bowels. At the end of this period the acid bath was used instead of the warm bath, and the effects on the bowels were observable the next day, and have continued, with evident advantage to the patient.

This effect, which is certainly the most constant of any which has been yet observed, is still, however, not general. In many persons it does not take place, and in these it does not appear to be useful; so that we may, I suspect, attribute any efficacy it possesses, especially in the cure of bilious complaints, to its power of increasing the secretion from the liver and intestinal canal.

The soreness of the mouth occurred in a few instances, not more than six, on whom it was tried, under my immediate observation, and then not to any extent; which renders it doubtful whether that state of the gums arose from any specific effect of the acid, or whether it simply took place in consequence of the increased general excitement which ensued from its use after mercury had been previously and frequently employed; which was the case in four of the six instances alluded to. In the fifth and sixth, the gentlemen who used it for derangement of the functions of the liver, as was supposed by their medical attendants, had not taken mercury previous to using it, except as an occasional purgative; and they complained of its rendering their gums sore: but it was not carried to any satisfactory extent. I have since seen the mouth affected in several cases; but, in all, the patients had taken considerable quantities of mercury for the cure of their complaints, although in some a year had elapsed since they had omitted it. But whether it be dependent on this cause, or whether it be the specific effect of the acid, is not sufficiently ascertained to induce us to consider it as a regular effect of the remedy, which may be naturally expected when its use is persisted in to a certain extent.

Sir James M'Grigor, when surgeon of the 88th regiment in

India, in the years 1799 and 1800, tried the nitric acid bath, alone and in conjunction with other remedies, in a great variety of cases, and with the best effect. On referring to the papers he has been so good as to allow me to read, I find that at that period he had formed nearly the same opinion of its effects as I have done more lately. He used it generally of a strength to irritate, and to turn the soles of the feet and the nails yellow, and repeated it sometimes even three and four times in the day. He says, "that nitric acid used externally and internally does affect the salivary secretion, I no longer doubt, from the examination of not less than 800 persons, and from measuring the saliva ejected. Salivation is not, however, a constant effect of the use of these remedies; it is by no means so much so as from the use of mercury; and I do not recollect a case where the fœtid breath or ulceration of the gums which follow the use of mercury was remarked. The use of the bath alone occasions a redness and swelling of the gums, and it never fails to hasten a flow of saliva where mercury is used, as we have often seen in desperate cases of hepatitis and dysentery."

The opinion that the acid bath is an excitant, acting more powerfully than the warm bath, receives some confirmation from the circumstance of its use in persons suffering from chronic inflammation of the eyes, rendering this state of disease more active, although not at the same time more curable, which is exactly opposite to the general effects of mercury in similar cases.

In several cases of intractable ulcers, supposed to depend on constitutional, not local causes alone, the bath had a fair trial, with various success. The first case in which I saw it used was that of a burrowing ulcer at the root of the penis, supposed to have been originally syphilitic, and for which mercury had proved ineffectual. It was used to the feet and legs so strong as to change the colour of the skin; and in this case it produced an increased flow of saliva with soreness of the mouth, but without any curative effect, the man recovering many months afterwards by common surgical means.

In a case of intractable ulcer of the nates, spreading in a circular direction at its external edge, and healing at its internal with a corresponding celerity, it totally failed, or was rather detrimental.

In a third case, the patient, eighteen months previous to his admission into the hospital, whilst in India, suffered from a small eating ulcer on the left side of the nose and lip; which gradually spread across to the opposite side, producing a very disagreeable and painful sore; which was also accompanied by ulceration of the tonsils, and for which he underwent several courses of mercury without any benefit: during his return to England the ulcer healed by simple treatment, and continued well until the month of December 1816, when it broke out again on the right side of the lip, assuming its old action, and spreading up by the side of the nose, which was generally large and increased from inflammation, whilst it also made progress to the opposite side in the track of the old cicatrix, having altogether an appearance that promised any thing but a speedy cure. On the 20th of January he was put on the use of the acid bath every second day, and directed to take two pints of the decoctum sarsaparillæ compositum every twenty-four hours; and under this treatment, without any sensible effect being produced, a gradual amendment took place until the 30th of March, when he was discharged cured of the ulcer, and his general health greatly improved.

In this case, I consider the bath to have been of most essential service, although the acid used was in small quantity, twenty-four ounces to forty gallons; and if future trials shall prove it to be useful in other cases of the same description, so as to destroy the idea of its being accidental, the remedy will be valuable from this circumstance alone: for, when I first saw the man, I had not the least hope of his recovery in as many months as he was cured in weeks.

In chronic rheumatism, and chronic pains, I have found it sometimes accelerate the cure, and especially when combined with other means, without producing any perceptible effect beyond the amendment of the patient.

An officer had been afflicted for several years with pains in his limbs, which were so much increased on becoming warm in bed that he could not sleep; and they often distressed him so much as to induce him to get out of bed and roll himself on the floor in agony. His general health was indifferent, he was thin and sallow, the digestive organs were considerably derang-

ed, his bowels were irregular and flatulent, and his tongue generally white. He was relieved in the course of three or four days by alteratives combined with narcotics, and by attending to the state of the bowels: these remedies were persevered in for a few days longer, when he was in every respect better, his sleep improved, the pains diminished, but they were still distressing, and occasionally severe. The acid bath was now ordered to the feet and legs every night, and of a strength to produce pimples on the skin, which were rather encouraged, within bounds, than otherwise. It was continued, in addition to the remedies alluded to, for the space of three weeks; at the end of which period the gentleman had entirely lost his pain, slept well, and was in a much better state of health than he had been for a considerable time.

This case, which was under the care of Dr. Charles Forbes, I consider a good instance of the utility of the bath in the cure of chronic pains, judiciously used in addition to other remedies: when tried alone, it has been generally unequal to afford permanent relief.

In scrofula the effects have been equally variable. It was principally tried in cases where different glands were enlarged, suppurating, or in a state of ulceration, and with the same result as in every other disease in which I have seen it used: in some few it appeared to promote a cure; in others, the disease remained for a time stationary; whilst in a third set every symptom was aggravated. It would be very desirable here, also, to have it in our power to distinguish these cases one from another before the remedy was resorted to; but I have not been able to observe, neither have any of the gentlemen who were equally or more interested than myself been able to remark any one sign or difference of appearance in those persons, which could in the slightest degree guide us in the application of the bath. The good or bad effect to be expected from it could not then, by any previous observations of ours, be anticipated; it was ordered on speculation, and from the effects produced during its use, we could only judge of the propriety of continuing it.

I am however more disposed to believe, on an attentive consideration of the whole, that it will be found more useful in

those cases in which there is actual suppuration and ulceration, than where there is only simple glandular enlargement.

In the most prominent case in which it was tried, the patient had long laboured under the disease, had been sent to the hospital as incurable, and was incapable of wearing any thing round the neck, from the ulcerated state of the glands and parts extending round the neck in front from ear to ear. Dr. J. Forbes and Mr. Dease, under whose care he was, determined on trying the bath, as well as on using the nitro-muriatic acid internally. He commenced the use of the bath in the weak proportion, on the 15th of January, and continued it every other day with little intermission until the 26th of April, 1816; during which time a soreness of the gums and an increased flow of saliva had taken place, which may probably be attributed to the acid taken internally. The ulcers gradually amended during this period, but about the latter part of it inflammation came on in the part, and the man was attacked with fever; the acids were now omitted, and he used the warm bath alone; but the inflammation soon showed itself to be truly erysipelatous, rapidly extended to the forehead, and successively to the breast, and indeed to the whole body. From the second day the delirium was constant, and the danger extreme. The temporal artery was opened three times in one day, and he lost upon the whole a considerable quantity of blood: his treatment being purely antiphlogistic. This case was altogether one of the most remarkable of its kind I have seen, and the successful termination of it was entirely owing to the constant attention, as well as the decision and ability of the gentlemen under whose care he was. The man completely recovered from both diseases, the last of which may, I am aware, be attributed by some to accidental causes, unconnected with the use of the bath; but as I have seen an erysipelatous inflammation occur after its use in another case of the same kind, although in a less serious degree, and without any beneficial effect, I am disposed to believe they are not entirely independent of each other, although they do not follow as cause and effect. The original disease is, however, so serious and distressing, as well as for the most part incurable by common means in the state to which I have alluded, that I should have no hesitation in continuing the use of the bath in

those cases in which it appeared to produce a good effect, even if I had reason to suspect from the constitution of the patient that an attack of erysipelas would ensue. The misfortune we have most to lament, is not however the sudden appearance of this complaint, but the deterioration of the original disease, after it has for a time remained stationary, or been considerably ameliorated whilst the patient was using the bath; and when this is perceived, it must of course be immediately abandoned.

I have not used the nitro-muriatic acid bath for the cure of the primary symptoms of syphilis, because it would have interfered with another object I had in view; but I am inclined to believe it would be very useful in such cases. In the papers of Sir James M'Grigor to which I have alluded, I find the effect of the nitric acid bath was to shorten the duration of the primary ulcers; and when the acid was also given internally in conjunction, that the ulcers were cured in as short a time as when mercury was exhibited. But if it were not used for the cure of primary ulcers, it had a fair trial in many cases of secondary symptoms. From among them I have selected the following, as showing some of their different kinds and stages, and its effects upon them. In some, where it may be doubted whether the cases were, according to received opinions, truly syphilitic; and in others, in which the ill effects of repeated and protracted courses of mercury will be discoverable.

Case I.

The Paymaster Sergeant of the 4th Veteran Battalion, about the latter end of September 1816, whilst at Quebec, perceived a discharge of matter from the urethra, and shortly afterwards an ulcer made its appearance on the right side of the corona glandis and fold of the prepuce, near the frænum; for these he took about twenty-four mercurial pills, which did not affect his mouth: the gonorrhœa got well, but the ulcer remained the same, a few spots making their appearance about this time on his neck. He embarked for England on the 27th of October, and soon after saw the same kind of spots on the forehead and other parts of the body. On the 10th of November he was shipwrecked on the coast of Newfoundland, where he was much exposed to cold and privations of every

kind, and the eruption rapidly increased. He came under my care on the 26th of December, when he thought the eruption better, that is, rather fainter in colour; for he had not observed any of the well-marked spots to disappear, some being small, others on the forehead as large as a shilling, scaly, and having the appearance of the syphilitic lepra; his throat was rather sore in swallowing, but no ulceration could be perceived. The ulcer on the penis, which was smaller than formerly, did not look unhealthy at bottom, but was surrounded by a thick hardened edge, extending to the touch under it; forming a welt, and there were two or three little excoriations near it: his general health was otherwise good. I pointed this man out to the gentlemen attending as a good case of syphilitic eruption, and a fair case in every respect to be allowed to run its own course.

On the 14th of January the ulcer was healed, but the hardness surrounding it remained, the eruption scaling and fading in colour. On the 7th of February, as he made little progress, the nitro-muriatic acid bath was ordered every other day; between that and the 16th the welt on the penis ulcerated, the scaliness of the ulcers disappearing slowly, and the mark remaining. On the 20th he complained that the bathing made him perspire, and that his eye was inflamed; on examination there appeared a slight redness of the conjunctiva, but the pupil was irregular, and there was an uneasiness hardly amounting to pain; the extract of Belladonna was ordered to be applied. 22d. The iris was in part amenable to the Belladonna, showing an irregularity of pupil on the outer and inner side, as if it adhered to the capsule of the lens behind; the external redness increased in the manner peculiar to inflammation of the iris; the colour of which was not perceptibly altered, except at the point of apparent attachment; no pain; the sight not impaired. The spots on the body disappearing; the hardness on the penis subsiding under the ulcerative process, which is slow. I did not consider it fair to push this experiment further; and as I knew the low inflammation of the eye would be best relieved by mercury, I therefore directed him to omit the bath, to rub in two drachms of the ungt. hydrarg. fort. every night, and to take ten grains of the Pil. Hydr. three times a day. On

the 24th, the iris was half dilated and regular, with little or no external inflammation, and the pills were omitted. On the 26th, the mouth being completely affected, the ointment was omitted; ten drachms having been used and twelve pills taken. March 4th, the hardness around the site of the ulcer gone. On the 12th of April he was discharged perfectly well.

Case II.

A soldier of the 51st regiment received a blow on the eye on the 9th of November, for which he came under my care, and recovered from the immediate injury, vision having been previously destroyed by inflammation, by the 28th of the same month; at this time he was attacked by fever and sore throat, and called my attention to a papular eruption which was coming out over his body, but particularly on his breast, arms, and face. The fauces, on examination, were found inflamed, the tonsils ulcerated, especially the right. He confessed to having had a sore on the glans, the mark of which was to be seen, in the month of September, that he had taken a few pills, which had not affected his mouth, and that the sore soon after healed. The gentlemen attending supposed it might be venereal, and a fair case to see the effect of mercury; I rather wished them to observe the case without it, and at all events none could be given during the eruptive and febrile stages. Saline and antimonial medicines were ordered, with common gargles. On the 5th of December the fever subsided, and the head-ache was relieved. On the 9th the throat was easier, the papulæ were acuminated and resembling pustules. On the 12th, the sloughs in the throat separated; the fever was nearly gone; and the papulæ were scaling, but not scabbing. 18th. The eruption perfectly resembled Mr. Carmichael's plate of venereal lichen (Fig. 5. Plate 2d;) the throat was better; but the ulcers not healing. Ordered the pulv. ipec. comp. gr. x. three times a day, a gargle of lime water, and the linimentum æruginis. On the 10th of January, there being little alteration, the nitro-muriatic acid bath was added to the treatment. On the 20th the throat was well, and the eruption fading in colour. A pint of porter was ordered, in addition to the meat diet, the man appearing very thin and weakly. In the beginning of February the porter was omitted,

and the pulv. ipecac. comp. gr. xv. given twice a day. On the 20th, as he continued weakly and the spots were fading, the powders were omitted; and from this period he gradually or slowly improved until the 12th of April, when he was discharged, fat, well, and free from spots, excepting where a small mark remained. He took no medicine after the 20th of February, and, although he bathed to the neck nearly eighty times in the acid bath, no effect could be perceived that might not equally be attributed to the warm water.

Case III.

A soldier of the waggon-train, in March 1816, perceived a bubo in the right groin, without any primary ulcer, for which he was taken into the hospital; the bubo suppurated, broke, and kept him six months in the hospital; during which period he took mercurial pills, rubbed in twenty-six nights, and in all had his mouth made sore five different times. Soon after his discharge he caught cold and had a sore throat, which was not well in the beginning of December, when he caught another cold, and immediately after an eruption appeared all over his body, first about the haunches, then on the breast, the shoulders, and the extremities. On the 28th of December the tonsils were ulcerated, although not very deeply, the body was covered with a copper-coloured scaly eruption, small in size, and resembling Mr. Carmichael's plate of venereal lichen (Fig. 6.); the general health was otherwise good. He was ordered the most simple remedies; a common gargle, gentle opening medicine, and fifteen grains of the pulv. ipecac. comp. twice a day: diet low. Under this plan he slowly improved; the throat amended, the eruption faded, although it did not disappear; but he lost his strength and was placed on meat diet. On the 4th of February he commenced the use of the nitro-muriatic acid bath, and on the 8th changed the pulv. ipecac. comp. for one pound and a half of the decoct. sarsap. comp. This plan he continued until the 21st of March, when he was discharged cured, having bathed twenty-two times without producing any perceptible effect.

To the first case no objection will I think be made, as to the syphilitic history and nature of the disease, by any one. The symptoms were all slowly disappearing when the affection of the

eye induced me to excite a mercurial action, under which they totally disappeared, and faster I conceive than they would have done without it. The quantity of mercury, according to received opinions, was not, however, enough to secure the patient from relapse: indeed it was not given to cure the venereal complaint, but the inflammation of the eye. The man is still under observation.

To the second and third cases, some will say they were venereal, not syphilitic; and others may suppose that the mercury taken in the first instance caused the development of the ulterior symptoms, which would not have appeared or remained so obstinate if it had not been given. The cure in all three might have been expedited at an earlier period by a gentle course of mercury, although, in the two last, it was proved not to be essential, although it might have been useful. In a fourth case, exactly like the last, which occurred a year before, the sudorific plan with the strong nitro-muriatic pediluvium was tried for three months with little effect, the eruption fading but not disappearing, when a gentle course of mercury perfectly removed it.

The length to which this paper has already stretched, will scarcely permit us to give the three following cases in detail. In the fourth, a patient at Chipping Ongar, in Essex, about four years back, contracted an ulcer on the penis, followed by two buboes, for which he went through a course of mercury without any benefit, save the retrocession of the buboes, the ulcer gradually deteriorating. In December 1813, he was again put on the use of mercury, when the penis sloughed off, and several hæmorrhages occurred, which nearly destroyed him. The ulceration at last healed, but was soon followed by sore throat, nodes, &c.; for which he underwent twelve more courses of mercury without any permanent benefit. Towards April 1816, he was something better, and commenced the use of the nitro-muriatic acid bath; from which he received no benefit at first, and was then ordered the decoction of sarsaparilla, &c. with considerable effect. Having caught cold, he relapsed, in July 1816: and remained in various states of health until July 1817. During this period he repeatedly used the acid bath: on one occasion, it affected his mouth, and increased his pains; on

another, it was omitted in consequence of its causing sickness and vomiting; on a third, a swelling of the testis, and an increase of ulceration in the throat. In July the man slowly recovered, and went out of hospital; but has since returned with all his complaints aggravated: he is again trying the bath, but I do not suppose it will be more efficient than at a former period.

In the fifth, from the repeated courses of mercury, the disease was considered mercurial; he was admitted in September 1815, and getting better under the use of the sarsaparilla, when the acid bath was tried, but with evident bad effect; the throat ulcerating, nay, sloughing largely; the ulcers spreading, and the pain increasing. The bath was omitted, and the patient, after fifteen months' suffering, was discharged cured; the good effect seeming to arise from the continued use of gentle doses of mercury, combined with the more usual means in such cases.

In the sixth case, the patient contracted a gonorrhœa at Madrid, in October 1813. Without any other previous affection, an ulcer appeared in the throat, in October 1814; which was called venereal, and treated by mercury, during the administration of which he was exposed to wet and cold. The disease followed nearly the same course noticed in the fourth case, and with the same effects in regard to the acid bath. In July 1817, he was discharged cured, although in a debilitated state, and has not had a relapse.

From these cases, and many others of the same description in which it was tried, it will appear, that the acid bath is like all others, an uncertain remedy in what are called the secondary symptoms, or the sequelæ of syphilis, or of mercury; and although it may succeed in some instances, where all other remedies have failed, still it cannot maintain a character as a principal remedy, entirely superseding the use of mercury and those medicines more commonly administered. If I were to point out those symptoms which did not appear to be benefited by its use, I should name the ulceration of the throat and the pains in the bones.

It is not a little remarkable, that the nitro-muriatic acid bath should have obtained a high character, although used in a

variety of ways, and in very different proportions as to strength. It is on this account that I am disposed to attribute a part of the good effects resulting from its use to the warmth of the water. I am perfectly aware that Dr. Scott supposes the acid to be equally efficient when used with cold water; but there are many cases in which it may be used cold with greater advantage than warm, and I have one at present under my care; but I have not had sufficient experience to enable me to give an opinion. I doubt it as a general position.

I have shown that the acid bath has two principal effects: one, that of promoting the secretions from the intestinal canal, even with pain, and often proving completely purgative. The other, although infinitely more uncertain, of increasing the flow of saliva, and especially if mercury has been previously used. It cannot then be denied to possess considerable power. As a remedy, although extremely uncertain in its effects, it is peculiarly applicable in those diseases in which the use of mercury and of alteratives is indicated; in many cases it may and will be successful where these have failed, but should not be relied on altogether as superseding their use. It will, on the contrary, be found more efficient on many occasions when used as an auxiliary, in combination with them.

In all cases of constitutional derangement dependent on the state of the primæ viæ; in nervous cases dependent on the same cause; in derangement of the function of the liver, and of the chylopoietic viscera—it will often be found of essential service. In many cases of this description we are uncertain whether there be alteration of structure or not, although the derangement may be complicated with ascites or other disease: if these complications be also cured, we think we have cured an organic disease, and that our mode of practice or our remedy is the more valuable. I do not believe the acid bath alone is equal to mercury in the influence it exerts in this class of diseases, although it is, even in them, a valuable aid. In the cases I have seen or heard of, with the exception of one or two, in which it was supposed to have had this good effect, the rapidity with which it was induced, as well as my knowledge of its failure in others, have led me to believe that an alteration of this kind could not have been so speedily accomplished.

To those who only value observations on a remedy when the prove it to be decidedly good or bad, I am aware my remarks can be of no use: to those who are disposed to make trial of a remedy which has many good qualities, although it is not always certain in its effects, yet is frequently useful, and seldom or never detrimental, they may perhaps afford some little assistance. My object in this paper has been to state what have been the general results of the trials made of the acid bath in the York hospital.

Observations on the Function and some particular States of the Organ of Hearing; with a description of a newly-invented Instrument for Puncturing the Membrana Tympani. By JACOB VALE ASBURY, Member of the Royal College of Surgeons, and Licentiate of the Society of Apothecaries, in London.

[From the London Medical Repository, for September, 1817.]

THE ear is an organ so ingeniously adapted to the purposes for which it is designed, and contributes so largely to our most exquisite and refined enjoyments, that it presents, to such as are disposed to examine its minute mechanism, a most interesting subject of investigation. The distressing consequences which result from a diminution or loss of its faculty, place those so circumstanced out of the reach of much mental intercourse, and

"Wisdom at one entrance quite shut out*,"

renders the unhappy object perhaps more solitary than he who has sustained the loss of sight. Therefore, when the functions of the ear are impaired, whatever means can be suggested, in order to remove this morbid state, and to restore its lost energy, are of the utmost importance both on a physical and moral consideration.

When we reflect on the economy of this organ, and the multifarious parts of which it is composed, the diseases affecting

* MILTON.

it do not appear so numerous as might, *a priori*, have been expected; yet, the obscure situation of the most essential parts, and the difficulty attending the removal of any morbid affection of them, render it a subject worthy of the deepest attention.

The effects of obstruction of the Eustachian tubes, and the most simple and easy mode of removing it, will be the principal subject of which I mean to treat. These canals, which lead from the fauces to the tympanum, must remain pervious, so that the membrana tympani may the better receive the pulses of sound; which, giving mobility to the air within, are thence transmitted to the *membrana fenestræ ovalis*, and thence to the portio mollis. If the air in the cavitas tympani be confined, the action of this membrane must be so limited, that the sonorous rays will produce no effect on it; neither under these circumstances can there be any motion given to the confined air; consequently deafness must ensue. This is daily manifested in those who are much exposed to cold; which, producing an increased secretion from the mucous membrane of the *fauces*, the Eustachian tubes become obstructed; and when this secretion is restored to a healthy condition, the patient's hearing returns. In those complaints, however, such as *scarlatina*, *cynanche tonsillaris*, &c. where inflammation sometimes extends to the organs of hearing, the tubes become permanently obstructed by the secretion of coagulable lymph; and finally by adhesions, which obliterate the passages. In this case it is necessary to make an opening into the cavitas tympani, to answer the purpose of the Eustachian tube, and this can only be done with propriety through the membrana tympani.

This operation has been successfully performed; but it should be observed, that the success attending it is limited; and, that in a short time after the operation, the patient has, in consequence of the opening closing, experienced the same degree of deafness. This has unjustly brought the operation into disrepute, and merely because due attention has not been paid to all the circumstances of the case.

The want of success, I conceive, may result from two causes; either from the opening not being made sufficiently large to remain pervious, or from the inflammation produced by the

injury which the parts have sustained in the operation. That these causes may depend on the kind of instrument which is employed, I am much disposed to believe, and for the following reasons: If the extremity of the instrument be small, as is the case with the trocar used for this purpose, the opening which it makes must be small also; and hence there is the greater probability that it will again close; if, to enlarge the opening, the instrument be urged forward, then there is every chance of its wounding the opposite side of the cavitas tympani, and occasioning inflammation; which, by extending to the membrana tympani, may produce a thickening of it, and closure of the aperture. There are cases recorded, and others with which I am personally acquainted, that justify me in this opinion. If the Eustachian tubes are obstructed, without organic defect of the internal structure of the parts, or constitutional affection of the individual, and yet the operation fails, in what other way can the failure of it be explained? Either the opening must be too small, or such an injury be done to the parts as to excite inflammation; and which ever of these happen, the operation proves an additional evil to the disease. I have punctured the membrana tympani with a triangular probe*. It gives temporary relief; but, in the course of a week, the hearing is often as defective as before the operation. This of course can be accounted for only by the closing of the aperture.

From these considerations, I had an instrument made by Mr. Blackwell, of Bedford Court, Covent Garden; the cutting part of which, is an equilateral triangle, one eighth of an inch in each direction, and resting on the plain surface of a bisected bulb, which has, proceeding from it, an iron wire, a line in diameter, terminating in a small octagonal handle. The point of this instrument can only enter the tympanum to the eighth of an inch, as it is then arrested in its further progress by the bulb. The base of the triangle is sufficiently large to make an opening in the membrana tympani, that will admit the softened

* Mr. Brookes, the celebrated anatomist, to whom I am much indebted for my anatomical knowledge, inculcates the puncturing with this probe, provided a more convenient instrument is not at hand. He expressly states, that no harm can arise from simply puncturing the *membrana tympani*.

extremity of a small bougie, which may occasionally be introduced to keep open the aperture, when this precaution is necessary. The diameter of the tympanum is about double the length of the point of the instrument; therefore no injury can possibly ensue to the opposite side; and as the membrana tympani itself is supplied only with very few vessels, the occurrence of inflammation from the perforation with this instrument must be extremely rare. The appearance of blood on the instrument after the operation, will show whether it has penetrated too far.

The triangle is fixed in the radius of the bisected bulb, for the purpose of avoiding the manubrium mallei and chorda tympani. The former of which is attached to the upper part of the membrana tympani; the latter crosses it transversely, and may generally be seen in the form of a white cord at the bottom of the meatus. Therefore, if the instrument be introduced with the cutting angle in the lowest direction, it will enter that part of the membrane which is beneath both of them, where there is nothing to injure; and the flat surface above the angle will come against the chorda tympani. There are two white spots in the handle corresponding to that part of the instrument which in operating must be kept uppermost. So little is the chorda tympani concerned in the function of hearing, that a wound or division of it is regarded by some as of no consequence; but it appears to me probable, that injuring it may diminish the sensibility of the parts exterior to the labyrinth. I am by no means inclined to argue this point; but it is evident that no good can arise from disturbing this nerve; therefore I altogether avoid it.

It has been suggested, that the instrument would answer better, if curved, so as to correspond to the obliquity of the meatus auditorius externus. But, although the passage takes a course at first upward and forward, then making rather a sudden turn downward and backward, yet it proceeds afterwards horizontally to the membrana tympani. The obliquity therefore may be removed by taking the pinna of the ear between the thumb and finger of the left hand, and drawing it a little backward and upward; then, the instrument being in the right hand, observing that the two white spots in the handle

are directed upwards, it may be introduced with great ease. It is right to bear in mind also, that the membrana tympani is not placed horizontally at the bottom of the meatus; but that it takes an oblique direction; so much so, that it forms a very acute angle at the lower, and an equally obtuse angle at the upper side of the boney external meatus; to which it is at first nearly parallel. If, therefore, the instrument be curved, so as to correspond to the obliquity of the passage, with its convexity upward, while the concavity is applied to the convexity of the lower side of the meatus, the cutting angle will not only enter the lowest part of the membrane, but it will also wound the bottom of the cavitas tympani. In this position indeed the opening of the tympanum will be quite uncertain, for the instrument may enter at the acute angle formed by the union of the membrana tympani with the lower side of the meatus externus.

A short time since I had a case of deafness, resulting from an attack of scarlet fever in 1802, which had been attended with violent inflammation of the tonsils and adjacent parts. The patient could not hear unless she was spoken to in a loud tone of voice. As the constitution was perfectly good, I immediately punctured the membrana tympani. I was instantly apprized of success, by the patient declaring with a strong emotion of joy, that she could "hear the clock tick;" that her "ears cracked;" afterwards, succeeded a confused noise, and sounds were distinguished that she had not heard since the scarlet fever. Her hearing soon became exceedingly painful. In a short time, by putting a small piece of wool into each meatus, the sensibility of the organ diminished, and it adapted itself to the new impressions of sound; and the patient finally declared, "I can hear almost as well as I could at fifteen." The same success attended a similar operation, where one of the Eustachian tubes was obstructed.

Another young lady had laboured under a defect of hearing for five years. It had declined gradually till she was incapable of hearing a conversation in any tone of voice. There was a defective secretion of cerumen. From examination of the state of the Eustachian tubes, I found, that by closing the mouth and nose, and then attempting to expire, she could not

distinguish the least noise in the ears; consequently I concluded, that they were obstructed; although, from the gradual approach of the deafness, without any previous affection of the fauces, I had some doubts. But as no harm could arise, I punctured the membrana tympani; and I regret to add, that the operation did not succeed. This failure induced me more accurately to examine the state of the Eustachian tubes; and on the patient clearly understanding, which she did not before, what I meant by a sensation of swelling in the ears when forcibly expiring, she was sensible upon further trial, of such an effect. This, therefore, proved a case in which the operation could not be expected to succeed, because the air within the cavitas tympani was free. This patient had decidedly a scrofulous habit. I immediately adopted a suitable mode of treatment, from which she derived considerable advantage. She took a calomel pill and saline purgative every seventh day; and in the interval, mineral tonics. I ordered the ears to be fumigated three times a day, with strong camphorated spirit*; and stimulated night and morning by a liniment composed of ceratum resinæ, oleum olivæ, and a small portion of tinctura lyttæ, and spiritus ammoniæ compositus applied with a camel's hair pencil. By these means I hoped to restore the secretion of wax. In this regimen she persevered as long as I thought requisite; and she now enjoys conversation in the society of her friends. By occasionally varying the internal and external remedies, she is still sensible of improvement.

There are numerous cases on record which directly prove, that the membrana tympani is not essentially necessary to the faculty of distinguishing sound; therefore we may conclude, that it can be punctured without detriment. Mr. Astley Cooper has noticed an instance, in which the membrana tympani of one ear was totally destroyed by disease, and that of

*This was proposed to me by my ingenious friend Mr Edward Turner Bennett, who also suggested Mudge's inhaler as a fit apparatus to be used in this case. I procured one, and set it upon an iron stand four inches high; then filling it half full of hot water, I added two tea spoonfuls of strong camphorated spirit, and placed a spirit-lamp underneath. The vapour rose through the flexible tube, the extremity of which was then applied to the external meatus.

the other nearly so; the deafness appeared inconsiderable; and the hearing in the ear, in which no trace of the membrane could be found, was distinct. In similar cases, the ear is sometimes acutely sensible of musical tones, and accurately judges of time. Some persons are capable of driving smoke from the mouth through the meatus externus*; and in them there is great accuracy of hearing. In this instance, the opening in the membrana tympani must be formed artificially, and most likely by the efforts of the individual; as the most exact researches, I believe, have discovered no such communication existing in the natural structure of the parts. But a natural foramen is particularly described by Professor Rivinus, of Leipzic, whose name it long bore. This foramen, however, is not admitted by modern anatomists to exist. I have repeatedly found this opening in cats and some other animals; but I never could trace the smallest appearance of it in man.

If we enquire into the use of the ossicula in the cavitas tympani, they also are by no means necessary for distinguishing sound; since, in cases where there has been inflammation and suppuration of the cavity destroying the membrana tympani, so that the bones have escaped, the sense of hearing has still remained. But in these cases, the membrana fenestræ ovalis must remain entire, otherwise the aqueous contents of the labyrinth would escape; whereby all power of hearing is completely destroyed. If, when the parts external to the labyrinth are lost, sounds can be distinguished, it follows that the *ossicula* have no share is transmitting the sonorous vibrations, the contrary of which has been generally believed, and that the air in the cavitas tympani gives the impulse of sound to the fluid of the labyrinth. Otherwise how is it that an obstruction of the Eustachian canals diminishes, in so great a degree, the faculty of the organ? The air thus confined cannot prevent sound passing through the medium of bone. The ossicula themselves, therefore, are to be considered as secondary agents, designed to enable the impulse of sound, thus transmitted, to act with more

* This phenomenon, I am informed, is very general among the North American Indians.

correctness and accuracy on the membranes to which they are connected. The membrana tympani, being furnished with a contractile and relaxing power, its use is, I think, analogous with the iris, to the sight, by regulating the intensity of the violent impulses of sound, and increasing the power of the weak. When our attention is directed to a low tone, the membrane is rendered tense; but the opposite state takes place when loud tones are transmitted to the organ. Considering, therefore, the use of the parts severally, which are external to the labyrinth, and the degree of deafness from the want of each separately or conjointly, it will be found, that where the Eustachian tubes are obstructed, the power of hearing will be more diminished than where a part of the membrana tympani is destroyed. And sometimes it will be equal, if not greater, than that which is occasioned by the loss of the whole membrane and ossicula. In every case of this kind, therefore, it will be adviseable to open the tympanum, which may be done in the manner I have directed.

Hence it appears, that provided the rays of sound are conveyed to the membrana fenestræ ovalis, the functions of the organ will be performed with sufficient accuracy, and that this membrane is one of the most essential to hearing; that the functions of the ossicula and membrana tympani are merely accessary, and are principally employed in regulating the transmission of sonorous rays to the necessary parts of the organ, and in protecting those which are more delicate.

New method of extracting the Stone from the Bladder, without the formidable operation of cutting. In a Letter from DR. CALVIN CONANT, *to the Honourable* SAMUEL L. MITCHILL, *dated August* 14, 1817.

[From the New-York Medical Repository, for November, 1817.]

HONOURED SIR,

A few months ago I was called to visit a boy of fifteen years of age, who had long been troubled with frequent suppressions

of urine, in consequence of a loose stone, which occasionally fell into, or upon the sphincter of the bladder.

I frequently introduced a small silver catheter, and removed the stone from over the sphincter; and in this way daily evacuated his water, administering soda and other medicines generally used in such cases, without any apparent success. Worn out with daily toil, I at length resolved, if possible, to extract the stone.

For this purpose I furnished myself with a very fine silver wire, about twenty inches long; made elastic, by being frequently drawn through a wire-plate, without being annealed.

I then drilled two holes through the fore end of the catheter, upon the convex part, about one-eight of an inch asunder, through which I passed the two ends of the wire, bringing them through from the anterior to the posterior part of the catheter.

I soon found, by shoving the wire forward, that a handsome loop was formed, and that by pulling the two ends back the loop would be brought in so close a contact with the end of the catheter as to be no material hindrance to its introduction into the urethra.

Thus prepared, I visited the boy, and determined to extract the stone, provided I could enloop it, and should find it so small as not to endanger a laceration of the urethra in its extraction; to determine which, I had graduated the ends of my wire into spaces of a quarter of an inch each.

Having introduced the catheter, felt out and enlooped the stone, which was done with little difficulty, I examined my scale and found one inch and a quarter of the wire was taken up in surrounding it; I changed its situation and enlooped it anew a number of times, until I found I had enclosed it in such a manner as to occupy the greatest length of loop, which at this time was one inch and seven-eighths. By this I knew I should be able to bring the stone and wire into the urethra, which would not expose it to so great a laceration.

Having drawn my ends of the wire very tight to keep the stone firmly enclosed in the loop, I proceeded, with gentle

but varied motion, to draw it through the urethra, which I was happy enough to effect with but little difficulty, or pain to the subject.

I injected for a few days the cold mucilage of slippery elm (Ulmus Americana) into the urethra, causing him to drink of it freely, as well as a solution of soda, and now happily find him in sound health.

I am, Sir, with sentiments of esteem,
Your humble servant.
CALVIN CONANT.

To Samuel L. Mitchill, M. D.

SELECTED REVIEW.

An Essay on the Chemical History and Medical Treatment of Calculous Disorders. By ALEXANDER MARCET, M. D. F. R. S. &c. &c. 8vo. pp. 118, and 10 plates. London, 1817.

[From the London Medical Repository, for December, 1817.]

IT is truly gratifying to contemplate the change of opinion which the last twenty years have produced with respect to the importance of Chemical Science as a collateral branch of medical education. It is now generally and minutely studied; and the pathologist willingly admits, that chemistry, in aiding his labours, has, like irrigation, fertilized a soil, which, if hitherto unproductive, was so only from the deficiency of knowledge in the cultivators to draw forth its riches. In no part of medical science, however, has the influence of chemistry been more conspicuously displayed, than in the light it has thrown upon the nature of calculi, and the consequent improvements which have resulted in the treatment of calculous disorders. Hence the great value of every work that can render this species of knowledge more familiar to the practitioner; a fact which must plead our apology for bringing before our readers this volume so immediately after its publication, while many interesting works of a prior date still remain unexamined.

The object of Doctor Marcet's Essay, to employ his own language, "is to describe and illustrate, by means of accurate engravings, the characters by which the different calculi may be distinguished; to indicate the easiest analytical methods by which their chemical nature may be ascertained; and to point out the modes of medical treatment which afford the best prospect of success." In fulfilling these intentions, he has divided his subject into eight chapters; and although each of these may be regarded as in some degree a distinct essay, yet,

by the judicious arrangement he has adopted, every one seems a necessary link in the chain of information, which the whole is calculated to complete.

In the first chapter, which treats "of the different situations in which calculi are found in the urinary passages, and of the symptoms which they respectively produce," our author sets out with assuming the position, that as these concretions occur "independent of any specific agency of the urinary organs themselves," they "are liable to form in any of the cavities to which the urine has access;" but at the same time the particular form of some of these parts, and other circumstances either natural or morbid, facilitate in them the deposition of calculous matter. Thus in the *kidney*, from the peculiar structure of the organ, producing "a kind of double filtration of the urine, which is highly favourable to the deposition of an undissolved calculous matter," concretions are frequently formed. Our author has exemplified this fact by two engravings of kidneys from the collection of Mr. Abernethy; in one of which the pelvis is greatly enlarged and distended with separate calculi closely pressed against each other, and in the other the concretion is a single mass moulded exactly to the form of the cavity, greatly distended, however, with all its ramifications. In both, the texture of the gland is much altered. In cases of this nature, the secretion is carried on by the other kidney; but occasionally, as Dr. Marcet remarks, "both kidneys are diseased to a most remarkable extent, and yet life is preserved for a considerable time." When the kidney is thus distended, the concretions usually extend into the superior part of the *ureters*, expanding it into a kind of pouch, while the coats of the tube below it are considerable thickened. We are rather surprised that our author has not mentioned the total obliteration of the canal of the ureters, which now and then takes place when the pelvis of the kidney is filled with calculous matter, two cases of which have come under our own observation. He notices, however, a circumstance of rare occurrence, that concretions may form in the duct itself; and states that he has seen "an instance in which the internal membrane of the ureters was lined with a calculous concretion."

The situation of calculi in the *bladder* is illustrated by two engravings; in one of which the stone, as in the majority of cases, lies free in the viscus, the coats of which are much thickened and contracted round it; while, in the other, "several calculi are seen enveloped and fixed in distinct cysts or rugæ, formed in the substance of the bladder." He mentions an instance of a single stone being incysted in this manner which weighed 3088 grains; and yet the patient "never had the usual diagnostic symptoms of the stone, namely, sudden stoppage of urine, pain in the glans penis, &c. and he had never consented to be sounded." The stone was found after his death, and consisted of two distinct masses of lithic acid, cemented together "by an intervening layer of crystalline triple phosphate." The manner in which small calculi are occasionally impacted in the urethra, is also illustrated by an engraving from a preparation of Mr. Abernethy. The stone is spheroidal, and the coats of the canal are very much thickened, particularly round the place where it is fixed. The case, adds our author, "is the more instructive, as the stone was first mistaken for a stricture, and an attempt was actually made to destroy it by the caustic." The representation of another preparation, from the collection of the same gentleman, serves to exemplify the formation of calculi in the *prostate gland*, when these were found embedded in its substance; and the manner in which they form a cyst in the lobes is also displayed.

The symptoms attending the presence of calculi in the different situations we have noticed, are next briefly described by Dr. Marcet. Among those diagnostic of stone in the *kidney*, he has overlooked one of the most striking, and which is so much the more necessary to be mentioned, as it is not observed to occur in mere inflammation of the kidneys when no calculus is present. We refer to the dark appearance of the urine, as if it were mixed with coffee grounds, evidently depending on broken-down particles of blood, proceeding from the obscure but continued irritation of the kidney. When this occurs, in conjunction with a dull heavy pain in the loins, there can be very little doubt of the presence of calculus in the kidney. Our author justly remarks, that a decisive diagnostic symptom

of the presence of calculi in the *prostate gland* "is still wanting." He notices a case which came under the observation of Mr. Astley Cooper, "in which this pathological point was clearly decided by manual examination." A sensation of grating at the neck of the bladder was perceived on passing a catheter, "and the finger being introduced into the rectum, some calculi could be felt moving in a cyst within the prostate;" an operation was proposed, but objected to by the patient, who died a few years afterwards, when the prostate was found to contain a number of calculi.

The second chapter, which treats "of the different prevalence of urinary calculi in various districts and hospitals, and of the comparative frequency of the disease in different countries," contains some curious and interesting matter; but we must lament with our author, that this account is much less complete than might have been expected, owing to no regular, or at least ostensible, records, of the cases of lithotomy "being preserved in many hospitals, and particularly in the largest hospitals of London, St. Bartholomew's, St. Thomas's, Guy's, and the London hospital." The only place from which a very accurate statement was procured by him, was the Norwich hospital, in which a regular register of the operations has been kept, and the calculi extracted preserved, for forty-four years. To this collection our author had access, and was furnished with an abstract of the records annexed to the calculi, from the details of which the following table was constructed.

Returns of the Cases of Lithotomy in the Norfolk and Norwich Hospital, from 1772 *to* 1816; *making a period of* 44 *years.*

	Number of Operations.			Deaths.		
	Children under 14.	Adults	Total.	Children	Adults.	Total.
Males....	227	251	478	12	56	68
Females	8	20	28	1	1	2
	235	271	506	13	57	70

"It appears from the above table, that the mean annual num-

ber of cases of lithotomy in the Norwich Hospital, during the the last forty-four years, has been $11\frac{1}{2}$, or 23 in every two years; and that the total number of fatal cases, in the 506 operations, is 70, a proportion of deaths corresponding to 1 in $7\frac{1}{4}$, or 4 in 29. It appears also that the proportion of females undergoing the operation, is to that of males as 58 to 1000, or about 1 to 17; and that the mortality from the operation in children is only about 1 in eighteen; while in adults, it is four in 19, that is nearly quadruple."—p. 25.

He has given, also, a tabular view of the comparative prevalence of the disorder, at different periods, in the same hospital, which we do not extract; as the variations of the number of operations of lithotomy in any hospital depend on very different causes, altogether independent of the prevalence of the disease; and, notwithstanding the average proportion of operations of lithotomy in that hospital, corresponding to the total number of patients admitted, is as one in thirty-eight; a proportion greatly exceeding that in any other public institution, to the records of which, Dr. Marcet had access; yet, we think there are scarcely grounds for concluding, that this circumstance can be "traced to any peculiarities in the habits or situation of that district."

In St. Thomas's Hospital, in Cheselden's time, the proportion which the operations of lithotomy held to the total of patients admitted, appears to have been nearly as one for every 268 patients; while in the last ten years, according to a statement furnished by Mr. Travers, it has not exceeded one for every 528 patients: but this difference perhaps may be accounted for from the extraordinary reputation of Cheselden in this operation. In St. Bartholomew's Hospital for the last five years, as Mr. Lawrence has endeavoured to ascertain, the annual average has been about "eleven cases of lithotomy, or one case in each [every] 340 patients;" and in Guy's, although the statement is merely guessed at, the average may, perhaps, "be considered as one in about 300 patients." From these data, our author conceives he is authorized in concluding that lithotomy is less frequent in London than formerly; a fact that we think depends less on any change in the diet and habits of the people, than in "the circumstance of calculous

patients not resorting so exclusively, as was formerly the case, to the great London hospitals for the operation." This, in our opinion, arises in some degree from the more general establishment of county hospitals; but also in part from the superior attainments of young surgeons of the present day, enabling them more readily to operate in private.

In the Edinburgh Infirmary, the average of the operations for the last six years has not exceeded two in the year, although the annual number of patients is about 2000; in Paris, in *l'Hopital de la Charité*, the annual average is from ten to twelve, the admissions being from 2500 to 2600; in *l'Hopital des Enfans Malades*, where 3000 children under the age of fifteen are annually admitted, the average is about six. In an hospital at *Clermont Ferrand* in France, in which the annual admissions are 2000, the average of stone cases for the last twelve years has been six; and at Rouen, out of 7300 patients "during the last eighteen months, twelve have been operated on." From Vienna no returns were obtained; and very few cases of operation occur there, owing to the prejudice existing against it: at Geneva, in a population of 30,000 souls, lithotomy has been performed thirteen times only in the last twenty years, and seven of the thirteen patients were not strictly Genevese; while at Lyons, which is eighty miles only from Geneva, "the disease is stated to be rather frequent."

The Norwich table might be supposed to confirm the observation, that a considerable number of the cases of calculi occur in children; but our author justly remarks, that "this obtains only among the poor classes;" and even not among these, if they be well fed. In the Foundling Hospital, for instance, into which 1151 children have been admitted within the last twenty-seven years, three cases only have occurred; and in the Military Asylum at Chelsea, 6000 children have furnished one case only of stone.

From these inquiries, Dr. Marcet is led to conclude, that "the tendency to form urinary calculi must arise from some general causes" independent of diet; and keeping in view the fact, that the disease is nearly unknown in tropical climates; and that great changes in the urine are effected by a different

state of the surface, he suggests it as a subject for inquiry, "whether there may not be some essential connexions between the state of the cutaneous functions, and the greater or less prevalence of this class of disorders."

Having concluded these preliminary remarks, our author passes on to the more immediate object of his task, and treats, in the third chapter, of the different species of urinary calculi, of their external characters, and of their chemical nature and classification. He objects to that classification, which has led to the expressions *renal*, *cystic*, or *urethral* calculi, "with a view to indicate that they had their origin in the kidneys, the bladder, or the urethra;" and advances satisfactory proofs, that the varieties of calculi which the urine deposits, are all "liable to appear in the different parts of the urinary passages."

Those found in the *kidney* differ from each other, not only in shape, size, and external appearance, but also in their chemical nature. When not in one mass, assuming the shape of the interior of the organ, the more general figure is round; but in some instances they are of a polygonal form, commonly having three flattened sides.

"These," adds he, "are sometimes of a fawn or yellowish brown colour, sometimes grayish, their surface in either case being often remarkably smooth, as if coated with a fine varnish; or even in some instances having a degree of metallic lustre not unlike burnished copper."—p. 49.

The calculi found in the *bladder* equally "vary" in size, form, and other external qualities. They are spheroidal, egg-shaped, almond-shaped, polygonal with flattened surfaces, and even sometimes almost cubic: "they vary from the size of a few particles of sand agglutinated together, to that of a mass almost filling the bladder." Their colour, which differs, often indicates their chemical nature: thus, when of a fawn or mahogany colour, "they almost always consist of lithic acid;" when white or greyish white, "they always consist of earthy phosphats; when dark brown or black, hard in their texture and tuberculated, they consist of oxalat of lime; and when their surface is uneven, crystalline, and "studded with shining transparent particles," they may be regarded as consisting chiefly of the ammoniaco magnesian phosphat. In specific

gravity "calculi vary between 1200 and 1900, water being 1000;" and our author observes that, "when sawed through, they exhale a faint animal smell." As it is probable that all natural calculi originate in the kidney, the nucleus is usually lithic acid; but any foreign matters introduced into the bladder, a circumstance which experience has proved may happen, almost invariably become the nuclei of calculi. But calculi are not always homogeneous; and Dr. Marcet correctly remarks, that their alternate layers often present specimens of each of the various species of calculus.

The calculi found in the *prostate gland* seldom exceed the size of a millet seed, are generally more or less rounded, and of a yellowish brown colour. These external qualities of calculi are exemplified in the plates.

Before entering upon the chemical examination of calculi, our author gives a brief history of the discovery of their composition. It is unnecessary for us to follow him in this part of his tract; and we have only to state that Scheele was the first who developed the chemical nature of urinary calculi; and that to the labours of Dr. Wollaston we are most indebted for the knowledge we now possess on that subject. Fourcroy is accused of having assumed Wollaston's discoveries as his own, a charge which undoubtedly requires to be cleared up; and which we trust will arrest the attention of M. Vauquelin, his associate in all his researches into the nature of calculi.

"It is extremely painful," says our author, "to be compelled by justice to notice such an apparent want of fairness and candour in a philosopher, who devoted a long and brilliant career to the advancement of science. But unless this circumstance should hereafter be satisfactorily explained, it will be impossible for posterity to overlook such unjustifiable omission, particularly in a man, whose great fame and peculiar merits as a chemical philosopher, seemed to preclude all temptation to plagiarism."

Our author enumerates the following as the component parts of calculi: "lithic or uric acid; phosphat of lime; ammoniaco-magnesian phosphat; oxalat of lime and cystic oxyd;" and as one or other of these substances generally predominates

in every calculus, although any one of them rarely exists singly, he thus arranges calculi according to their components:

"1. The *Lithic* Calculus.—2. The *Bone-earth* Calculus, principally consisting of phosphat of lime.—3. The *Ammoniaco-Magnesian Phosphat*, or calculus in which this triple salt obviously prevails.—4. The *Fusible* Calculus, consisting of a mixture of the two former.—5. The *Mulberry* Calculus, or oxalat of lime.—6. The *Cystic* Calculus, consisting of the substance called by Dr. Wollaston cystic oxyd.—7. The *Alternating* Calculus, or concretion composed of two or more different species, arranged in alternate layers.—8. The *Compound* Calculus, the ingredients of which are so intimately mixed as not to be separable without chemical analysis.—9. Calculus from the *Prostate* Gland."

As the chemical examination of each of these species is extremely important, we trust a little prolixity in our analysis will be readily excused

1. The *Lithic Calculus*, which is the most prevalent, and the external characters of which we have already noticed, is easily dissolved in the pure fixed alkalies; "from which it may be precipitated in the form of a white powder, by all the other acids." Of the mineral acids, the nitric only dissolves the lithic calculus, the residue, when evaporated to dryness, assuming a remarkably bright pink colour. It is sparingly soluble in lime water; blackens before the blow-pipe, emitting a peculiar smell, "and gradually evaporates, leaving only a small quantity of white ash, which is commonly alkaline." Destructive distillation resolves it into a new and peculiar acid and a variety of other products, which do not essentially illustrate its composition.

2. Dr. Wollaston first ascertained that some calculi consist entirely of *phosphat of lime;* "and described their external characters in the Philosophical Transactions for 1797, which our author has transcribed. When pulverized, this species of calculus dissolves readily in the muriatic or nitric acids. Before the blow-pipe it first blackens, from the charring of its animal matter, then becomes white again, and may be ultimately fused, if the heat be intensely urged; thus differing from the phosphat of bones; which, as it contains a greater proportion of lime,

is not fusible by ordinary means. Dr. Marcet regards this species of calculus as comparatively rare.

3. The *Ammoniaco-Magnesian Phosphat* was first discovered as a constituent of urinary calculi by Dr. Wollaston. It never forms the entire substance of a calculus; but it is often seen "in the form of minute sparkling crystals diffused over the surface or between the interstices of other calculous laminæ," which are soluble "in most, if not all, the acids." During the action of the blow-pipe, this phosphat emits an ammoniacal odour, and is imperfectly fused if the heat be strongly urged, "being reduced to the state of phosphat of magnesia." Ammonia is also disengaged during the solution of this triple calculus in the pure alkalies, "the alkali combining with a portion of the phosphoric acid."

4. The *Fusible Calculus*, which is of very common occurrence, was first distinguished by Mr. Tenant, and its chemical characters developed by Dr. Wollaston. In its external appearance it resembles chalk, being white and friable; and often attains a large size, taking a pyriform shape, with a kind of peduncle at the broader end, corresponding to the neck of the bladder; which is well illustrated by a good engraved figure. It is a mixture of the triple phosphat and phosphat of lime; and easily fuses before the blow-pipe. It is this calculus which usually forms around foreign bodies introduced into the bladder; and the concretions that form "when urine is detained in any of the passages, are of the same nature*." We extract the account of the method of showing its composition.

"If it be pulverized, and acetic acid poured upon it, the triple crystals will be readily dissolved, while the phosphat of lime will scarcely be acted upon; after which the muriatic acid will readily dissolve the latter phosphat, leaving a small residue, consisting of lithic acid, a portion of which is always found mixed with fusible calculus. This portion is generally minute; but sometimes it is more considerable, and in some instances it is so much so as to give to the calculus an equivocal character.

"From the acetic solution the triple crystals may be re-

* For an analysis of a concretion of this kind, which formed in the vagina of a child, by Mr. A. T. Thomson, vide *Repository*, vol. vii. p. 111.

covered, with their characteristic appearance, by the addition of carbonat of ammonia; and from the muriatic solution, the lime may be precipitated by oxalat of ammonia. As to the phosphoric acid, its presence may easily be rendered obvious, after the separation of the lime, by adding to the remaining liquor a solution of muriat of magnesia, with some carbonat of ammonia, by which means an ammoniaco-magnesian phosphat is immediately precipitated in its usual form*. The neutral carbonat is better adapted to produce this effect than the sub-carbonat."

5. The *Mulberry Calculus* was first discovered to consist of oxalat of lime, united with some lithic acid and phosphat of lime, by Dr. Wollaston. When finely pulverized, it is soluble in the muriatic and nitric acids, aided by heat: and "when it is digested with alkaline carbonats, the alkali combines with the oxalic acid, and the carbonic acid with the lime." On exposure of this calculus to a red heat, the oxalic acid is volatilized, and the residue is quick lime. But oxalat of lime is also found in some smooth calculi: and Dr. Marcet has met with three varieties of small mulberry calculi, having a distinct crystalline texture, which have been hitherto undescribed.

"They were all of a pale brown colour, and the crystals of which their surface was composed, though at first sight having the appearance of mere square plates, proved, upon closer examination, to be very flat octahedrons."

6. The *Cystic Oxyd* was also discovered by Dr. Wollaston. In external appearance it resembles the triple calculus, but is more compact, is a confusedly crystallized mass, yellowish, semitransparent and glistening; and has been found remarkably free from other ingredients. Before the blow-pipe it emits "a peculiarly fœtid smell; and is so easily acted upon by reagents

"* The presence of phosphoric acid may also be shown by reducing it to the concrete state, by the blow-pipe, on a slip of laminated platina; the acid, when thus urged, communicating to the flame a peculiar green tinge. By processes of this kind, the nature of the component parts of calculi is easily ascertained; but when an exact knowledge of proportions is desired, more elaborate operations are required; some of which are pointed out in Dr. Wollaston's papers in the Philosophical Transactions for 1797 and 1810.

that it is best known by its insolubility in water, alcohol, acetic, tartaric, and uric acids," and neutral carbonat of ammonia. Like other oxyds, it unites with both acids and alkalies; for which reason, and as the specimens Dr. Wollaston examined were taken from the bladder, that celebrated chemist named it *Cystic oxyd;* but our author details two cases in which it was unquestionably of renal origin. He, however, does not propose to change the name.

7. *Compound Calculi in distinct layers* "are composed of different species of calculous depositions disposed in layers around a common nucleus." The plates exhibit various specimens of these; and in particular one, "in which lithic acid may be distinctly seen in the centre, pure phosphat of lime next to this, then oxalat of lime, and ultimately the fusible crust enveloping the whole concretion."

8. *Compound Calculi, with their ingredients intimately mixed.* Dr. Marcet refers to this head all calculi which have no characteristic feature indicative of their belonging to any of the other classes.

9. Dr. Wollaston has ascertained, that all the *Calculi found in the prostate gland* consist of neutral phosphat of lime.

With regard to *urat of ammonia*, arranged by Fourcroy as a species of urinary calculus, our author, in common with Dr. Wollaston and Mr. Brande, has looked for it in vain; although, from analogy, he does not altogether deny its occasional existence in human urinary calculi, having observed it in the urine of of the *boa-constrictor*. In the fourth chapter, Dr. Marcet describes two nondescript calculi; one of which he has named *xanthic oxyd*, from its property of forming a lemon-yellow compound when acted upon by nitric acid; and the other, *fibrinous calculus*, on account of its chemical properties corresponding closely with those of fibrine. But as these are as yet solitary instances, he candidly admits, that unless other similar calculi should occur to future inquiries, they "would hardly deserve any farther notice." It is certainly not by the collection of singular cases, and the description of solitary morbid productions, that medical science is to be advanced; but by disseminating an accurate knowledge of those results of disease which are every day occurring.

In the fifth chapter an attempt is made to give some idea of "the comparative frequency of the different species of urinary calculi," by a tabular display of eighteen specimens of the Norwich collection, which our author chemically examined, and that at Guy's Hospital, amounting to eighty-seven specimens. In the first, the lithic calculi constitute one third of the whole; the fusible calculi are next in regard to frequency; the numbers of the fusible and the mulberry are two thirds only of the number of the lithic; and the compound concretions, "one third only of the mulberry species;" yet by far the greatest proportion of deaths has been amongst patients labouring under calculi of the compound or mixed kind. In Guy's collection there is a much smaller proportion of lithic calculi; while "the fusible, the mulberry, and the mixed calculi, bear to each other nearly the same ratio as in the former:" a proof, in the opinion of our author, that the calcareous nature of the Eastern counties of England has no share in the greater prevalence of calculous complaints in these counties; the calcareous calculus being comparatively more frequent in London than in these districts.

The sixth chapter, which is intended chiefly for the use of those who are not very "conversant with chemical manipulations," treats "of the analysis of urinary calculi, with a view to their easy discrimination." Our author first points out the instruments requisite for this purpose, illustrating his description by a sketch; and then details the easiest modes of analysing those calculi which are most prevalent. A *lithic* calculus may be generally known by its external characters; but when these are not distinct, a very small fragment of the calculus, detached by the point of a knife, must be exposed, by means of a small pair of platina tongs or forceps, to the action of the blow-pipe.

"If lithic acid be its principal ingredient, the fragment blackens, emits a smoke, having a strong and characteristic odour, and is gradually consumed, leaving a minute quantity of white ash, which is usually alkaline."

The lithic calculus is also soluble in caustic alkali; and, to ascertain this fact, it is only requisite to scrape off a little of the calculus into a watch glass, pouring on it a few drops of the

alkali, and to hold the glass over the flame of a lamp until the solution be effected: which, however, will generally not be complete, owing to other substances being contained in the calculus. By adding any acid to the solution, a white precipitate is immediately formed, if lithic acid be present. Or, to a particle of the suspected calculus, a drop of nitric acid may be added, and heat applied; if lithic acid be present, it will be dissolved; "and if the solution be evaporated to dryness, the residue assumes a beautiful pink or carmine colour," which is imparted to water, in which this residue is soluble.

A *phosphat of lime* calculus, independently of external characters, may be ascertained, either by exposing a particle of it to the action of the blow-pipe, before which it first blackens and then becomes perfectly white, still retaining its form; or it may be pulverized and dissolved in dilute muriatic acid; from which, "if the excess of acid be not very considerable, the lime may be precipitated in the form of an insoluble compound, by oxalat of ammonia." The *ammoniaco-magnesian phosphat* may be suspected to predominate when a calculus is extremely white and sparkling; but this is rendered certain by the evolution of a pungent ammoniacal odour, on heating a portion of the calculus, or pouring on it a few drops of caustic potash. The property from which it has derived its name enables us readily to distinguish the *fusible calculus*. When melted, it runs into a globule, semi-transparent, and of a pearly appearance. We have already noticed the method of analysing this calculus by chemical means. The *mulberry calculus*, although generally distinguishable by its external aspect, yet is not always so; but, before the blow-pipe it swells out into a white efflorescence, which is caustic lime, and changes the colour of turmeric paper to red. The *cystic oxyd*, besides being recognized by its unstratified structure, waxy appearance, and peculiar odour when heated, is distinguished also by its ready solubility "both in acids and alkalies." The *compound calculus* requires more complex and scientific methods of analysis, unless it be composed of distinct layers, which can be separately examined.

Having finished the description of the means of ascertaining the different species of calculi, our author, before entering upon

the treatment of calculous disorders, makes a digression from his main subject to notice "some other kinds of animal concretions, not belonging to the urinary passages, both in man and other animals." The concretions he notices, are those found in the various viscera, in the salivary glands, and in the intestinal canal of quadrupeds as well as that of man. He mentions having seen a calculus, found in the rectum of an infant with an imperforated anus, which closely resembled the fusible urinary calculus: and some of a caseous nature, that proceeded from "caseous matter actually formed in the intestines, from milk taken as nourishment by the patient, and coagulated by the gastric juices." Some also of a very singular nature are mentioned, in which the nuclei were grains of oats. The concretions found in the intestines of the horse and some other large quadrupeds, are composed almost entirely of the *ammoniaco-magnesian phosphat.* A large one found in a rhinoceros, and given to our author by Dr. Wollaston, consists of the triple phosphat "disposed in layers round a hazle nut, alternately, with thin laminæ of phosphat of lime." This latter substance, Dr. Marcet has remarked, usually forms part of the composition of the balls of hair sometimes found in the intestines of the cow and ox. The urinary calculi of quadrupeds are composed of the two phosphats and the carbonat of lime, lithic acid never having been detected in them; although it has been found in the droppings of birds, the urine of the camel, and the excrements of the boa-constrictor. *Gouty concretions* are now generally known to be either, to use Dr. Marcet's language, lithats or super-lithats of soda; and *biliary calculi* to consist chiefly of adipocire; but, although it is not noticed by our author, yet we may mention, that carbonat of lime also has been found in biliary concretions, incrusting a nucleus of adipocire, and forming that variety which has been termed *glauco-crustaceous* by Mr. A. T. Thomson, who first observed it.*

In proceeding to treat "of the chemical and physiological principles to be attended to in the treatment of calculous disorders," the subject of the concluding chapter of the volume, Dr. Marcet first examines briefly the "probable limits of the

* Vide Medical Repository, vol. iv. p. 467.

powers of medicine" in these affections. He contends, that although little or nothing can be expected from medicine in destroying already-formed calculi, too large to be discharged by the natural passages, yet in some instances, the sharp edges of small calculi or gravel may be so blunted by the internal use of chemical solvents, as to allow them to be passed "with less difficulty or inconvenience;" and that, at all events, the prevalence of the particular diathesis may be altered. Let us examine his exposition of the facts on which these opinions are founded.

In taking a summary view of the practice in calculous disorders, Dr. Marcet properly regards the substances to be acted upon as unorganized bodies, although they are contained in living parts; and considers the chemical treatment to rest upon the following general principles:

"Whenever the lithic secretion predominates, the alkalies are the appropriate remedies; and the acids, particularly the muriatic, are the agents to be resorted to, when the calcareous or magnesian salts prevail in the deposit."—p. 148.

But the question, can acids or alkalies reach the urinary passages? immediately suggests itself. This, our author thinks, experience enables us to answer satisfactorily in the affirmative, as far as concerns the alkalies; but with respect to the acids, the reply is more equivocal; and he is willing to admit, that although both may pass through the circulation unchanged, yet that the quantity is too inconsiderable to make much, if any, impression upon pre-existing calculi. Still, however, the prevailing diathesis may be checked; for even supposing that none can reach the urinary organs, these remedies may produce beneficial changes "during the first stages of assimilation:" for example, by neutralizing excess of acid, or checking an alkalescent tendency, "or otherwise disturbing those affinities, which, in the subsequent processes of assimilation and secretion, give rise to calculous affections." When an acid is indicated, "from five to twenty-five drops of the strong muriatic acid, taken two or three times a day, sufficiently diluted with water;" or if an alkali be the remedy required, soda water, or from five to twenty or thirty grains of carbonat of soda, taken two or three times, are recommended by our author. In stating the dose of the soda, he uses the following words: "whether in

the state of subcarbonate or in that of neutral or crystallized carbonat;" but we would suggest, that if the alkali be the useful ingredient, he must know, as a chemist, the difference in the quantity contained in these two compounds; and hence the necessity of prescribing a larger dose, when the carbonat is employed. In our opinion, the dose is too small, in either case, to prove beneficial. Dr. Marcet seems aware, that it may be questioned whether the carbonats can act by their chemical agency, *quo alkali*, in the urine in calculous disorders? He states the affirmative as his opinion, and conceives the carbonic acid itself may be beneficial, by producing "such stimulating effects on the digestive organs, as to counteract, independently of any direct chemical agency, the particular action which gives rise to urinary concretions." It is in this way only, in our opinion, that the neutral carbonats, or soda water, can be useful; for if the alkali combine with the acid in the stomach, which is chiefly the acetic, the acetate formed will more probably pass off by the bowels than be again decomposed, and give the urine alkaline properties. But the alkali, it is said, may be detected in the urine; that, however, we reply, is also the case when magnesia is taken, which is generally admitted to act merely by removing acidity from the digestive organs. Indeed it seems evident to us, that if alkalies can produce any effect in calculous affections, as chemical agents, they must be given in the caustic form, and more largely than the majority of stomachs can bear; but it is much more probable that the benefit which is found to follow from using them, results partly from their neutralizing the superabundant acid in the stomach, and partly from allaying irritation in the coats of the bladder and urinary passages, an effect which our author admits they produce, when they pass unchanged through the kidneys.

Some useful cautions are given regarding the use of magnesia, which our author has seen prove extremely hurtful, in a case in which the gravel deposited by the urine proved, "on examination, to be of the magnesian or fusible kind." We were rather surprised, under this head, to meet with the following sentence from the pen of Dr. Marcet—"the powers of which, magnesia, probably depend partly upon its aperient effect, and partly upon the absorption of redundant acid."

Now we believe it is generally admitted, that magnesia is not in itself aperient, and acts only as such when it meets with acid in the primæ viæ.

One of the greatest difficulties attending the treatment of calculous disorders, arises, undoubtedly, as our author remarks, from the alternation of calculous deposits; and, consequently, as great attention is requisite to the state of the urine and its sediment, the profession is indebted to him for making public the following remarks of Dr. Prout on this subject:

"When the urine contains urea in abundance, the phosphats generally prevail; while if the urine abounds in colouring and extractive matter, we may conclude that the lithic acid is the prevailing secretion. According to Dr. Prout's observation likewise, although urea and lithic acid do not co-exist in urine in large quantities, when the phosphats are deficient; yet sometimes the three substances, urea, lithic acid, and the phosphats, are found to exist together in abundance."—p. 169.

Dr. Marcet thinks the formation of the mulberry calculus may be checked by the use of the mineral acids, "which have the power of dissolving the oxalat of lime in its nascent state;" but there is an insurmountable difficulty respecting this calculus, as well as the cystic oxyd, the xanthic and the fibrinous calculi, of which he is fully aware; viz. there being "no vestiges of them discoverable in the urine, it is not easy to perceive to what kind of alteration in that secretion it is most desirable to direct the treatment, with a view to correct the calculous diathesis in question." The beneficial effects of purgatives and turpentine combined with opium in expelling calculi, are noticed; but no explanation of the latter hazarded. Some brief observations are offered on the subject of diet; and our author is of opinion, that as in some animals more lithic acid is secreted when they are fed exclusively upon animal food, it may be inferred, "that it might be detrimental to restrain patients affected with this kind of calculus, from taking a due proportion of vegetable nourishment." We would remark, however, that as dyspepsia is a very probable cause of the continuance of the calculous diathesis, if it cannot be said to originate in that morbid state of the digestive functions, whatever can relieve the dyspeptic symptoms, must necessarily tend to diminish the dis-

position to the formation of calculi; and we know no means more likely to effect this than an animal diet and complete restraint from vegetable nutriment. With regard to the direct application of solvents to calculi in the bladder, by injecting into that viscus weak solutions of the solvents, our author's opinion is, that the subject has not "yet been sufficiently investigated." He thinks that benefit may result from the practice when sufficient evidence can be obtained as to the nature of the calculus; but much caution is required on the part of the practitioner, and great patience and perseverance on that of the invalid. In one case in which he employed the muriatic acid, the quantity of the acid, which was at first two drops only in four ounces of water, was gradually increased to twenty-three drops, "without producing any inconvenience; though the solution was often retained in the bladder as long as an hour." The injection, however, besides the acid, contained in solution half a drachm of opium. He properly advises, that the catheter be left in the urethra; and that always before using the injection, the bladder should be emptied as completely as possible.

Upon the whole, we have no doubt, that the profession will regard this volume as an important addition to those works it already possesses, the value of which depends on their practical utility; as it brings the means of investigating a subject, which has hitherto been regarded as requiring a minute knowledge of chemistry, and extreme nicety of manipulation, within the reach of every practitioner; and consequently tending to improve the treatment of calculous complaints. In another point of view, it demonstrates the essential importance of Chemical Science to the medical philosopher; and is in itself an admirable model of the great advantages of simplicity in scientific inquiries.

ORIGINAL PAPERS.

FOR THE ECLECTIC REPERTORY.

On the Puerperal Fever of Northumberland.

BY SAMUEL JACKSON, M. D.

Northumberland, July 22d, 1817.

DEAR SIR,

THE puerperal fever which lately made its appearance among us, having, as we hope, entirely passed over, I will endeavour to fulfil my promise, of giving you a history of it, for the Eclectic Repertory. The cases, though few, may yet be worthy of publication, as they were attended by some peculiar circumstances; and yet I cannot but fear that they will prove an intrusion on the public, since we have an example of silence in many respectable practitioners, who have lately had to contend with this deplorable malady.

CASE I.

On the 6th of last November, a Mrs. Elliot of this town, a poor labouring woman, was delivered under my care of her ninth child, after an easy and natural labour of two hours. The 8th she took a saline cathartic, which operated comfortably, and she appeared to be entirely well; but on the 9th, the third day of her confinement, she was seized with a chill, which lasted more than an hour, and was succeeded by a fever. I saw her at the end of eight hours, after she had made a fair trial of her own inflammatory diaphoretics.

Her skin was warm and dry, face not flushed, pain in the head severe, tongue uniformly covered with fur, thirst considerable; the abdomen generally swelled, tender and sore to the touch, with severe active pain that had no intermission; pulse 120, full and strong, but not tense; the milk was gone, and the lochia diminished; she had vomited freely, but thrown up only the healthy contents of the stomach. Twelve ounces of highly inflammatory blood were taken, which lowered the pulse, but afforded no present relief; three ounces of salts were directed to be taken at intervals during the night, and the

abdomen fomented with flannels wrung out of hot water. This was at midnight, just three times 24 hours after her delivery.

Next morning the symptoms were much the same, probably rather milder, but the woman was much discouraged, and despair began to appear in her countenance. The pain was severe, she had slept none, and the lochia had now disappeared. The salts had operated freely, bringing away copious, offensive, black stools. About ten ounces of blood were taken and a free purging continued with Glauber's salts. In the afternoon all the symptoms were milder, and I was particularly gratified in finding, that though the abdomen was sore it was not now swelled. Eight or ten ounces of inflammatory blood were let, which lowered the pulse in such a manner as to convince me of what I had been suspecting; that it was a mixed fever, which would not bear very copious depletion. A continual purging was kept up for three days by small and frequent doses of salts; and I had the pleasure at every visit of finding all the symptoms gradually diminish, and the milk and lochia returning on the sixth day. The whole disease went off without running into the typhous form, and without requiring any stimulating medicines, the antiphlogistic regimen being rigidly enforced.

The common brumal fever of this vicinity is the *Synochus* of Dr. Cullen, attended very generally with severe inflammation of the bowels or lungs: to this genus of the great Nosologist I referred the above case, without even giving it the appropriate name of puerperal fever; and this may account for my drawing blood with a timid and sparing hand, having been accustomed to bleed in that mixed disease with the hope of merely moderating, though certainly with a desire of subduing the inflammation.

During the subsequent four weeks I attended six women, all of whom had a good getting up except one, who had a pneumonic inflammation that required several bleedings. But now, when I was going on with, perhaps, too little diffidence of my own abilities, the first patient occurred that I had ever the sorrow of losing in labour or childbed.

Case II.

On the 23d of December, I attended Mrs. Leiseming in her sixth confinement, and had the pleasure of seeing her comfort-

ably put to bed with twins, after an easy labour of three hours. She continued well until the morning of the 25th, about 48 hours after her delivery, when she began to complain of soreness in her limbs, but observed that she had never felt so well in any of her former confinements. The pulse and tongue indicated no tendency to disease. A dose of Glauber's salts was directed, which operated freely.

In the evening I was requested to visit her, and was informed, that about mid day she had a long and severe chill, which was followed by fever, delirium, vomiting and pain in the abdomen. Her skin was warm, face rather paler than natural, headach severe, the abdomen universally tender and sore, with considerable active pain; pulse large, bounding, 130 in the minute, and a little tense; the lochia continued, but the secretion of milk had ceased; the mouth of the womb was patulous and soft, the vagina so hot as to be unpleasant to the hand; her mental faculties were now restored. She was a large, corpulent but infirm woman, and, at two preceding labours, had brought forth diseased children, which afterwards died of mortified extremities.

Twenty-four ounces of blood were taken, which lowered the pulse but did not mitigate the pain; frequent small doses of salts were prescribed with an injection of warm water every hour, fomentations to the abdomen, and barley water for her food and drink.

I now retired slowly to my house considering the disease with the greatest solicitude. Mrs. Elliot's case was plainly reflected in this, but every feature was greatly magnified, and I had no hesitation in considering them both as puerperal fever. I took down every book in my possession that even mentioned the disease; but here I only recognized my former reading, and found nothing but what had been long before digested in my mind. The *Synochus* I knew would bear, in this vicinity, very copious depletion, and I resolved to carry it as far as my frequent experience in this disease would justify; and certainly, further as to quantity, than even Leake or Denman seem to require; the only authors in my possession who recommend bleeding in the puerperal fever. For, though they seem to consider it as purely inflammatory, yet they do not recommend

that copious depletion which an inflammatory complaint, even in London, generally requires. I had carefully studied the work of Dr. Leake, and had seen abstracts of Dr. Gordon's practice; but, finding these authors treated with very little respect by practical writers, I had long before adopted the predominant doctrines, and they seemed to be confirmed by the present cases. In the *Synochus* of this place I had often drawn fifty ounces of blood in the course of the disease; I had afterwards the pleasure of seeing the complaint go off, without assuming the typhoid character: and a few weeks before I had been called to a man, in the twenty-first day of this disease, whose physician had bled him fourteen times, and frequently to fainting, under the opinion that it was a bilious pleurisy, and yet he lived ten days longer, exhibiting a fair contest between the powers of medicine and those of the disease. Presuming then, that our puerperal fever, according to the doctrine of books, was *Typhus* rendered highly inflammatory in its first stage, by the prevailing constitution of the year, I determined to bleed freely and trust to the powers of nature, as I had often done before, to throw off the latent causes, whatever they might be, of the typhoid state; and thus to convert a mixed into a simple fever.

Fortified then with this kind of reasoning, I returned to my patient at the end of four hours, when all the symptoms were found to be aggravated; she was now delirious, and was with difficulty confined to her bed; the salts and injections had operated freely, and brought away copious black stools. The blood was not the least inflammatory, though there had been severe fever and pain for seven hours before it was drawn. Twenty ounces more were taken, which lowered the pulse; the fomentations, salts, and injections continued.

Early next morning, about the seventeenth hour of the disease, she was worse in every respect, except that she was now sensible. A very active purging had been kept up during the whole night, but the abdomen had, notwithstanding, become more tense and sore, and the respiration more laborious. The blood last taken was very inflammatory; but fancying that a typhoid softness was perceived lurking under fulness and apparent strength, my first thoughts of another bleeding were abandoned. The salts and injections were continued, the abdomen

almost covered with blisters, and for her food she was desired to take small portions of sāgo as often as her stomach would easily receive it. Her strength gradually declined, and her pulse became soft and weak, without any diminution of the fever; till in the evening a vomiting of porraceous matter supervened, which suddenly reduced her in a very alarming manner. I was immediately called, and did not leave her chamber more than a few minutes during the night. Her pulse was full and frequent, but soft and evanescent, like that of a woman exhausted by flooding; face deathly pale, eyes sunk and lifeless, breathing oppressed but not painful, the abdomen easier but prodigiously swelled; tongue white and moist, headach gone, mental faculties not disturbed, strength exhausted, and a dark green fluid streaming from her stomach, in prodigious and almost incredible quantities.

Whatever might be the state of the abdomen it was evident that she could not exist even for a short time without stimulants. Opium, Huxham's tincture, aromatic spirits of ammonia, wine and brandy were given, but nothing afforded the least respite; the debility and vomiting continued, and formed the most distressing scene of sickness I ever witnessed.

In the morning and forenoon of the next day she was a little easier, but in the afternoon the symptoms of the preceding night again returned; the matter which she now threw up was entirely black, and resembled ink; vibices appeared over the whole body; the abdomen was very large, but not painful; a cadaverous stench issued from the bed, and she died the following night, just sixty-six hours after the attack, having enjoyed her senses for the last forty-six. The body went rapidly into putrefaction; the abdomen continued swelled until her interment.

Case III.

The next woman that I attended in childbed was Mrs. Gray, of this town, who was safely delivered under my care on the 9th February, after an easy and natural labour of five hours. She continued well for four days, the milk was secreted, and the lochia were in proper quantity. About this time a sharpness of the voice was observed, which gave me some uneasiness: she began to exhibit some slight symptoms of fever and to complain of a ringing in her head. A cathartic of Glauber's salts

was prescribed, and the antiphlogistic diet and regimen, as it had been from the first, very strictly enjoined.

The 6th she was less feverish, and on the 7th appeared to be entirely well except the sharp voice and *tinnitus* of the head. Had I now suspected what was about to follow, the bark or Fowler's solution should have been freely administered; for, on the next day, the eighth of her confinement, she was attacked with a severe chill, which was followed by fever. I saw her soon afterwards, when her skin was hot and dry, cheeks flushed, pulse small, weak and frequent, thirst intolerable, headach and pain in the abdomen much less severe than in the preceding cases.

A very copious purging was kept up during that day and the following night by means of calomel, jalap, castor oil and frequent injections of warm water, and the abdomen was fomented as in the preceding cases. No relief however was obtained; on the next day she sunk into *typhus gravior*, and exhibited in the progress of her disease the following symptoms. Her cheeks were dyed with a yellowish red, making an unpleasant contrast with the rest of her face; when there was no perspiration the skin was very hot; and here, for the first time, in the course of my practice, I distinctly perceived the biting heat, the *mordacitas et acrimonia caloris*. Her pulse became every day more weak and frequent; the alvine evacuations were copious, black, and very offensive; often coming away without the patient's knowledge. Her tongue was at first moist at the edges but dry and red in the middle, and towards the last it became generally covered with dry brown scales. Her vomiting was very frequent; at first green, but towards the last entirely black. She dosed much, was sometimes comatose, slept little, and was always delirious, except after taking a full dose of opium. The abdomen was considerably swelled, was tender to the touch, but was never in active pain. Her breathing was oppressed, and her countenance vacant, and yet distressed. Towards the last, vibices appeared over the whole body, her cold, clammy skin was tinctured with yellow, the black matter issued from her mouth without any sensible effort to vomit, an intolerable stench arose from the bed; and in fine, she appeared to be a mass of effervescing putrefaction.

She lived only to the sixth day, and yet it was found

difficult to preserve the body through one night. She died in the very act of vomiting; and the black matter continued to issue from her mouth and nose till the coffin was closed, amounting to many pints: and I was told by persons of veracity, that some parts of the body, and particularly the face, exuded a black unctuous matter, resembling tar; thus almost verifying Lucan's poetical account of those who were bitten by the Lybian serpent:

> ——————— manant humeri fortesque lacerti,
> Colla caputque fluunt, calido non ocyùs Austro
> Nix resoluta cadet, nec solem cera sequetur.

The child appeared to be healthy for the first ten days, and then sickened with a fever and died soon after its mother, with small abscesses in various parts of its body, from which the matter might have been discharged by simply puncturing the skin. It did not suck after the mother sickened, but was kept in the same room with her, which was small; and, in contempt of my advice, was intolerably heated with an iron stove.

I have here given a simple statement of what occurred to my own senses, without any desire of exaggeration; nor does the melancholy subject admit of any, being of itself, like the exile of the Roman poet, sufficiently dark and gloomy.

> Non hæc ingenio, non hæc componimus arte,
> Materia est propriis ingeniosa malis.

Case IV.

On the 15th of February I attended Mrs. Brautigam with her first child. Her labour lasted sixteen hours, and was very severe, but she was in the end comfortably put to bed about five o'clock in the afternoon. At ten she appeared to be entirely well, except that the pulse was fuller and more frequent than was to be desired: but she had been bled freely during her labour, for an unyielding state of the *os uteri*, and the lochia were now pretty copious; circumstances which inclined me to think that the lancet was not now required. At one o'clock however, just eight hours after delivery, she was taken with a severe chill, which lasted more than an hour, and was followed by all the symptoms of the puerperal fever.

At eight next morning I found her with a skin warm and

dry, face rather pale, countenance distorted with anguish, headach severe, the abdomen in excruciating pain but without any sensible tumefaction, yet tender and sore to the touch; the tongue was universally white, thirst importunate, pulse 120, full, strong and perhaps tense; she had vomited, but thrown up only the food which she had recently taken. Twelve ounces of blood were let, which was not in the least inflammatory, and fomentations, salts and cathartic injections prescribed.

At two in the afternoon the symptoms were much the same, the medicine had operated but little, and the pain had not remitted for a single moment. Twelve ounces of blood were again taken, and small, frequent doses of salts prescribed with injections of warm water every hour; fomentations to the abdomen, and tapioca with lemonade for her food and drink.

Ten at night, she was a little easier in the abdomen, but all the other symptoms continued the same; the salts and injections had operated freely: the last blood, like the first, was not inflammatory; nor did it show any sign of disease. Twelve ounces more were taken, which was still not inflammatory. The fomentations were continued, and frequent doses of salts prescribed, with injections of warm water every hour, and more frequently if there should be griping pains.

Next morning she was still worse in every respect. The disease had now lasted thirty-four hours, and she had passed three days and three nights without one minute's sleep. Her pain was more and more severe, and her moaning was heard as we approached the house. The blood already taken was not in the least inflammatory, and at every bleeding the pulse had fallen for a time without affording any sensible relief. I had no hesitation in considering it the anomalous state of disease: six ounces more were therefore taken, when her pulse vanished at the wrist and she became faint. This blood was very inflammatory, being deeply buffed and cupped.

A more judicious nurse was now procured, who carried my instructions fully into effect, and applied the fomentations in such a manner as to be soothing and comfortable, though previously they had been chilling and of mischievous tendency. The purging with salts was continued with injections of warm water every hour. This bland fluid was also injected into the

womb, and my patient freely acknowledged that she was benefited by it. She at last began to experience relief. The stools became black and offensive, and in less than three hours after her last bleeding she was relieved of all pain, and began to sleep. The injections and salts were, however, used so as to procure six or eight stools in the twenty-four hours; her food and drink were tapioca and lemonade, in small and frequent doses.

In this promising state she continued till the sixth day of her disease, when she had a slight chill followed by fever, and some pain in the abdomen. This was evidently, as she said herself, brought on by agitation from the imprudent conversation of a visitor. Three ounces of inflammatory blood were taken, which brought on symptoms of fainting; salts, injections of warm water, and fomentations, were used as before, by which she was again relieved in a very few hours.

The next day, and at the very same hour, she had a severe chill followed by fever and pain in the back only, and afterwards a general moisture, warm and comfortable.

The following day, the eighth of her disease, as the hour of accession approached, thirty drops of laudanum were given her, and warm bricks applied to her back and feet, which appeared to anticipate the chill; for she had, at the precise time, a slight pain in the back, which probably indicated that something worse had been preparing. She was now reduced to such a state of debility as to be almost speechless; her pulse was full, evanescent, 110 in the minute, but her tongue was clean, thirst and pain gone, skin soft and cool, and I was therefore comforted with the hope that she had thrown off all the latent causes of *typhus*, whatever they may be; and that nothing remained to be done but cautiously to restore her strength, and check the tendency of the system to form an intermittent.

She was therefore requested to take twenty grains of bark, and ten drops of the elixir of vitriol every hour, in an ounce of hot water; and, as the time of accession approached, to use laudanum and hot applications as the day before. This plan was successful, and was continued for six or eight days, when the dose of bark was gradually reduced and very small quantities of animal food prescribed. She recovered safely and rapidly, and

a journey to Philadelphia restored her to her former state of robust health.

The child appeared to be healthy and took milk and water; but, about the twentieth hour, it became livid, and died, without any evident cause, before it was a full day old.

Case V.

On the night of the 17th of February I was called to the assistance of Mrs. Harrison, of Sunbury, a small town about two miles distant from Northumberland. She was threatened with abortion, but as the pains did not press down, and the mouth of the womb was not at all dilated, I entertained comfortable hopes of preventing it. She lost blood, and took a pill of opium, which soon quieted the pain. About midnight, however, I was called again, but before I arrived she had been delivered of a dead, putrid child, seven months old. I prescribed for her as for all other puerperal women, quietness, a cool room, and the antiphlogistic regimen. The next day, however, when I entered the room, it was intolerably heated with a close stove, the bed was surrounded with curtains and a crowd of company were taking their tea; she appeared, however, entirely well.

The 19th, at two o'clock, I visited her again, and was informed that, a few hours before, she had been seized with a chill and fever. Her skin was now warm and moist, cheeks flushed, thirst considerable, tongue slightly furred and nearly natural; there was some pain and soreness in the lower part of the abdomen, and pain with swelling in the epigastric region. The pulse was small, soft, 136 in the minute, there was ringing with pain in the head, difficulty of hearing, and a copious flow of milk; the lochia were in proper quantity. She had taken a dose of salts in the morning by my direction, which had not operated; and an officious neighbour had superadded a large dose of senna, which had been likewise ineffectual.

An attempt was made to relieve her by bleeding, purging, enemata, fomentations, and the antiphlogistic regimen; to which afterwards blistering the abdomen was superadded. She was a young woman who had never had children, was a daughter of a former pastor of the congregation, had no regular nurse, and her room was therefore crowded with neighbours whom she

did not suspect of fallibility, and whose mischievous kindness she received with confidence. Whatever inflammation I drew from her veins they amply replaced with brandy, strong soups and the intemperate heat of an iron stove; and under the *apparatus duplex remediorum*, she afforded something like the following symptoms.

The skin was generally warm and dry, face flushed till near the last, countenance vacant and languid, eyes lifeless and sunk, mental faculties very seldom and very little disturbed; a constant difficulty of hearing with ringing and pain in the head, pulse small, soft, frequent, generally about 136 in the minute; tongue moist and nearly clean to the very last, stools black and offensive, stomach not disturbed, pain and swelling of the abdomen very moderate, blood highly inflammatory. About twenty-four hours before she died the pulse became more full and slow, which I suppose was a symptom of suppuration. Tonics were then begun but without avail; she soon became covered with a cold sweat, and died the fifth day of her disease.

I have been particularly grieved with the loss of this patient, as there is reason to believe, from the mildness of all the symptoms, that, had the antiphlogistic regimen been fully carried into effect, the inflammation would have been subdued by a single bleeding, and the system been left strong enough to conflict with the disease in its tendency to *typhus*. This is the only woman who died with any decided symptom of suppuration; and even here there were no chills, nor did the abdomen subside.

Case VI.

On the 23d of February Mrs. Baldy of Sunbury was delivered under my care of her second child, after an easy and natural labour of two hours. She continued well for thirty-two hours after her confinement, when she too was seized with a chill. I was called at an interval of nine hours, and had the sorrow of witnessing another case of this fatal disease. All the symptoms were remarkably violent, and particularly the pain in the epigastric region; the pulse was small, soft, 136 in the minute, blood very inflammatory.

She was bled twice and purged most copiously, but the disease steadily increased; and, notwithstanding the early and long continued discharge of black offensive matter from the bowels, her belly soon began to swell, and on the second day of her disease was as large as before delivery. Blisters were applied to the abdomen, but perhaps they were rather injurious, their effects being altogether inadequate to the rapidity of the disease. Injections of warm water into the womb promised to be very beneficial, by bringing away coagula, and increasing the lochia.

The beginning of the third day she was prostrated into what has been called the typhous stage; and from this forward we entertained no hope of affording relief. The pulse was too small and weak to be counted; cheeks flushed, countenance denoting great anguish and entire despair, abdomen greatly swelled, breathing short and painful, tongue dry and brown, mental faculties not disturbed, porraceous, and afterwards black vomiting almost incessant, livid spots, and towards the last a total privation of sight and finally of hearing, though the mental faculties were still entire. She died the beginning of the sixth day, and yet it was found difficult to preserve her till the funeral rites could be decently prepared. Tonics were given after the third day without affording relief.

The child never sucked, and was taken from the house soon after the mother was seized; but it sickened after a few days and died, apparently of a malignant fever, covered with vibices and small abscesses.

Case VII.

On the 15th of March Mrs. Howe, near this town, was delivered by a midwife at my request, as I was lame in one hand, and therefore unwilling to attend; but the secundines not coming away in due time, I was again called upon to render assistance. This was afforded by the introduction of the forefinger; for the placenta was lying in the vagina; and, upon being moved a little, was soon expelled by the pains. This woman was entirely well the next morning, twenty-four hours after her delivery, and took a dose of salts by my direction, which operated comfortably.

Next day, the 17th, about forty-eight hours after her delivery, I found her labouring under the fatal epidemic. She had been seized the evening before, and, having no regular nurse, she tried to produce a sweat by hot bricks and tea of pennyroyal (*mentha pulegioides.*) The pulse was now 130 in the minute, pretty full and strong; the other symptoms it is not necessary to enumerate. The disease had now lasted sixteen hours, and had, no doubt, been aggravated by injudicious treatment; but yet it was milder in its aspect than in any of the other cases. Twelve ounces of inflammatory blood were taken, salts and cathartic injections given freely, and fomentations applied to the abdomen, by a benevolent neighbour who perfectly understood the operation, and who had applied them with so much efficacy in Mrs. Brautigam's case.

In about six hours she was relieved of all her pain, and began to sleep. No more blood was taken, but her bowels were kept freely open by injections of warm water; the fever gradually disappeared, till in two days there was not a sign of it left. Two women who had volunteered their services to nurse her, in succession, now left her under the care of the family. Every thing was done wrong; when I prescribed injections, which were still thought necessary to keep the body freely open, they gave her, dose upon dose, of salts; they damped her bed with fomentations most unskilfully and unnecessarily applied, without orders or any plausible reason; in consequence of which she had another chill followed by fever. This was considered as a relapse into her former complaint, and an attempt was made to relieve it by injections, purges and fomentations; but in fine, it proved to be a violent inflammation, the character of which I did not detect till it was too late to afford relief. Her pulse towards the last was tense, and continued so till it ceased to beat; the abdomen uniformly swelled; the disease at length reached the pleura, and rendered the breathing most painful and difficult; she had been tending towards a consumption for some time, and had now a severe cough, which aggravated her sufferings. She died on the eighth day, and as I believe, of pure unsuppurated inflammation; retaining all her senses and mental faculties to the last, and anxiously watching the clock for the different approaching hours, which she hoped would put an end to her agony.

This woman, unlike all the rest, showed no symptom of putrefaction after death; her case appeared to be pure inflammation, and no doubt might have been cured by vigorous depletion.

In the commencement of this essay it is mentioned, that I had long before adopted the opinion, that this disease is of a typhoid nature. This opinion led me to bleed sparingly as it regarded the degree of inflammation, and yet copiously, for a mixed fever. I am very certain, that without it, the two women who recovered, would be now in the grave; and that it had no agency in the death of the rest. Authors may make a parade of bark and cordials, but in such cases they can only hasten on the fatal event; the disease of the abdomen presenting an insurmountable barrier to their just operation. I must candidly acknowledge, that they were given in the last stage of my cases, in an humble compliance with authors, rather than with any hope of their affording relief. One of the women that recovered, took not one particle of tonics, nor did the other take any until the disease was gone, and the system was about to form an intermittent. These two patients were frequently, though not copiously, bled, and were purged beyond any thing that I ever attempted in other diseases, without assuming one symptom of *typhus;* as I have often seen our *synochus* do, which had been treated by moderate depletion.

Blisters to the abdomen, I presume, were injurious, being an additional irritation; their effects being altogether inadequate to the violence and rapidity of the disease. The two women who recovered were not blistered.

Warm water injected into the womb was always comfortable to the patient, and promised to be useful, by bringing away the stagnant lochia and increasing the discharge. The fomentations were soothing and comfortable, when properly applied; and in three cases appeared to be the very agents of safety to the women, including Mrs. Howe, who was at one time entirely relieved. In all the other cases, I am afraid, they were injurious, by damping the bed, and therefore checking the perspiration. In one instance, a bladder of water was spread over the abdomen, but the pressure of it could not be borne. I had

found the common fomentations in all diseases a very difficult and precarious remedy, few persons applying them with proper judgment and care. How they should be useful I cannot determine, unless it be by relaxing spasms, and producing a constant stream of perspiration from the diseased part. If this be the mode of their action, how carefully must they be applied, how assiduously repeated,—beyond the intelligence of ordinary nurses!

The profound respect which I have always entertained for the elegant and scientific writings of Denman, strongly inclined me to the use of antimonial powders; but the dreadful vomiting in my first fatal case, together with the opinions of some authors on the subject, inspired a wish to preserve the tone of the stomach; which was endeavoured, by giving the patient frequent doses of sago or tapioca, and warm lemonade. The effervescing draught was not tried, as there were no nurses of skill to administer it.

I have lately received that number of the Eclectic Repertory, which contains an analysis of Dr. Hey's work; a number which had been overlooked by the bookseller who supplied me. It appears, that after losing eleven patients, he adopted Dr. Gordon's practice, a practice that has been long neglected, and that he was then almost uniformly successful; and it is there likewise stated, that Dr. Armstrong, of Sunderland, by adopting the same principles, has been equally fortunate. These are most interesting facts in the history of the disease, and they have led me to consider, again and again, whether the same treatment would not have been equally salutary in all our cases. With the exception of Mrs. Grey, who, as I have said, soon sunk into *typhus gravior*, none of my patients died of the true pathognomonics of *typhus*, but of a certain extraordinary depression and disordered state of the vital powers, which, in compliance with authors, I called the typhous stage, and which I believed to be truly typhous, but modified by a severe and extensive inflammation of the abdomen.

Experience has clearly ascertained, that there is a fever, attended with local inflammation, in which we may bleed to the amount of ten or twenty pounds with safety, and often with

advantage; again, there is a fever attended with local inflammation, which will seldom bear the loss of one pound of blood, and will sometimes not bear bleeding at all, without hastening on a train of symptoms which are often fatal, and to which the term typhous has been applied. Now the only question is, to which of these febrile affections does the puerperal fever properly pertain; for the decision of this question must determine and regulate the use of the lancet.

Perhaps it is most reasonable to conclude, that those epidemics which have been so successfully combated with bleeding, were purely inflammatory; and perhaps sometimes rising, like the yellow fever, to the grade of malignancy, producing a defect of action from an excess of force. But in other epidemics, that unknown something, the typhous poison or predisposition, may have interfered. This we know has sometimes happened in the dysentery and yellow fever, adding greatly to their danger and mortality; why should it not sometimes occur in the puerperal fever?

It is perhaps often a difficult matter to distinguish between the *typhus gravior*, and the true malignant fever; nor am I yet satisfied, that all my cases were not inflammatory, and some of them rising to the grade of malignancy; and therefore, that all of them might not have been cured by copious depletion.

I was, last winter, called to a man with an incised wound, and inflammation of the knee joint. He was sitting up in bed with mild delirium, carpologia, false vision, vacant countenance, pulse 160, and so small as hardly to be counted; and in fine, nothing was wanting but the glassy eye to render it, to all appearance, the last stage of a typhous fever. I had read of patients dying in this state; and particularly in one case related by Mr. S. Cooper, in his little work, on Diseases of the Joints. Something vigorous was therefore to be done. Three quarts of blood, taken at two bleedings, in the space of an hour, rendered his pulse fuller and slower, and brought him completely to his senses. The depletion was pursued, but suppuration took place, and the man escaped with a stiff joint.

This man was not sensible of any pain at my first visit, unless when a spasm of the limb touched his almost suffocated sensibility; what then should I have done had the inflammation

been seated internally, if any inflamed internal membrane will render such symptoms? Here was an inflamed membrane involving the whole system in its ruin, and probably producing that very species of morbid action which has been called malignant; and that very depression and disordered state of the animal motions, which so often occur in puerperal fever, and which has there been denominated the typhous stage.

It may here be proper to mention, that during the prevalence of our fever all diseases were severely inflammatory, and particularly the first stage of every *synochus* that occurred to my observation. It has been observed by authors, that the erysipelas has often attended the progress of the epidemic, puerperal fever. It was likewise unusually common with us, and I am sorry to say that it still continues. It has required very copious depletion: the following case may prove an useful specimen.

About the 1st of April I was called to a young man, at the distance of seven miles, who was found labouring under the following symptoms. The face was slightly flushed, skin warm, tongue white in the middle, a constant pain in the epigastric region, aggravated by breathing, no puking nor nausea; pulse 130 in the minute, very small, weak, and vibrating, like a tense cord. I was doubtful concerning the character of the disease; the treatment however, was begun with bleeding, purging, and antimonials.

Next day the symptoms were nearly the same, but the tongue was now dry and brown: the depletion was continued as there was no sign of *typhus* in his countenance. On the third day the region of his stomach was relieved, but all the other symptoms were more unpleasant; and his debility, small, weak pulse, and dry brown tongue, inclined me to suspect a typhous fever. He now informed me that his arm was again getting bad. This arm I had two years before cured of a white swelling. Upon examination it was found covered with erysipelas. The case was now plain; the depletion was continued, notwithstanding the general debility, and particularly weakness of the pulse. He was bled every day for a week, and the disease soon disappeared, leaving him in a very exhausted state. He was now allowed milk, and in a few days a little wine at his own earnest desire; but no sooner had he swallowed the pernicious fluid

than he perceived its evil effects; and in less than four hours the disease appeared on his face, and required three bleedings to subdue it.

This man was bled twelve times; and we see, that for many days after he could not bear the stimulus of a little wine in his panada. But this was not the most violent of our cases; being particularly mentioned on account of the translation of the disease from the abdomen to the arm, and to show what might have been the treatment had this metastasis not taken place.

A healthy robust woman had the disease on her face, with a very soft, small and frequent pulse; coma, and sometimes delirium. She was copiously bled more than twenty times, purged and constantly nauseated with tartar emetic; and yet after her recovery, she could not taste animal food for two months without exciting fever. A healthy man of sixty-five had the disease on his leg, but refusing to be bled, he died a most lingering and painful death of mortification. At this time another patient had the disease likewise on his leg; and, while all were predicting his death, he escaped by the means of my lancet, though eighty-nine years of age, and of a constitution broken by intemperance. The cases however, which have occurred during the summer have been milder, and never required more than two bleedings.

The hooping cough likewise prevailed at this time, and those who had seen the disease before considered it as very severe. It frequently induced dangerous pneumonic inflammation, three cases of which proved fatal. There were two cases of its occurring a second time after a lapse of years; one of which was in my own person.

Having observed that the neighbouring midwives were successful in every instance, and also, being strongly prepossessed with the doctrine of typhus, I was ready to impute their good fortune to their customary copious use of wine and spirits; and the practice of Dr. Wood of Pennsborough, twenty-seven miles up the river, served to strengthen me in this opinion. We had conversed on the subject, and shortly after he too had a fatal case, which he considered as ending in *typhus:* he then gave his puerperal women large quantities of brandy and paregoric elixir, and had the satisfaction of seeing them all do well. My

next patient was therefore allowed a gill of brandy in the twenty-four hours. She was the first that escaped the disease, but she escaped with a subsequent mammary abscess, which I imputed to this Brunonian, and to me most abhorrent practice. My next patient took bark as a prophylactic, and escaped all complaints; but we soon returned to our former antiphlogistic regimen and mode of practice, with the hope that the warm weather had banished the latent cause of this unhappy disease.

I was much disappointed in finding, that nothing is said in the analysis of Mr. Hey's work concerning the contagiousness of the fever in question. This is certainly a subject of immense importance, and the testimony of Mr. Hey, on either side, would carry with it the greatest weight and authority. I am not disposed to discuss this knotty question, which would require a laborious dissertation upon the state of the atmosphere, the predisposition of the system, the nature of contagion; and finally, whether all these are so active and alive to the work of destruction, that the very small portion of idiomiasmata, which may be conveyed to the patient by her attendants or visitors, can excite the disease. My observations would enable me to say something on either side of the question, but thus much I can truly say; that, if the contagion was carried to my patients, in a single instance, it must be the most active poison in nature.

Whatever may be the opinion of physicians on this subject, they will probably emerge with a more peaceful conscience from the distresses of an epidemic puerperal fever, by the assurance of having always guarded against every source of infection; and thus, if an error was made, of having certainly erred on the side of safety.

October 20th, 1817.

The above account would have been sent to you at the time it is dated, but the very night I was finishing it, and, when I had the most comfortable hopes of the disease having passed over, another of my patients was seized.

Case VIII.

On the 21st of July, Mrs. Jones of Sunbury, was delivered under my care of her third child, after a severe labour of ten

hours. Her pains appeared to press particularly hard upon the lower part of the abdomen, almost detruding it below the bone of the pubes. The child was expelled gradually; the head, shoulders, body and limbs coming by as many successive pains, but the womb remained uncontracted, and the throes continued equally violent, without any intermission; nor did the speedy expulsion of the entire placenta procure any relief. I remained with her an hour, during which time the pains became more moderate, but they were still violent, and the intermissions of them not more than half a minute. The womb was still large and very tender to the touch.

Next day the 22d, twelve hours after delivery, she informed me that the pains had continued without any mitigation, that she had slept none, and that she was worn out with distress and watching. They were plainly after-pains, as she had some short but regular and complete intermissions. The womb was but little contracted, and so tender, that the slightest touch gave exquisite pain. She had now a very slight fever, but no signs of milk; and therefore fearing an inflammation, I drew sixteen ounces of blood, ordered a cathartic injection, two grains of opium to be taken immediately, and nauseating doses of emetic tartar, for the purpose of promoting perspiration, and relaxing the spasms.

The next morning, the 23d, I was made happy by finding her much better; the pains had left her for the most part, and she had slept comfortably most of the preceding night. A cathartic injection was directed.

The 24th she was nearly well, had a copious flow of milk, the abdomen was not sore, the womb had subsided, and there was no symptom of fever. A dose of Glauber's salts was directed.

The 25th she was entirely well. The salts had operated freely; there was no symptom of fever.

The 26th, upon entering her room, I saw her countenance distorted with anguish, and had the horror of witnessing another case of this unhappy disease. The days were very hot, the nights uncomfortably cold and foggy, and particularly so on the bank of the river where my patient resided. She had been entirely well till about midnight, the beginning of the fifth day,

when she felt the want of more bed-clothes; but, being unwilling to disturb the nurse, continued cold and uncomfortable for two hours, and was then taken with a long and severe chill.

The skin was now, eight hours after the attack, warm and dry, cheeks slightly flushed, pulse 140 in the minute, small and soft, headach and abdominal pain more severe than in any of the former cases; tongue slightly furred, thirst considerable, abdomen not swelled, but universally tender and sore; milk nearly gone, lochia present. The nurse had given her a large dose of laudanum and a cathartic injection, but without affording any relief. The pain of the abdomen had not one moment's intermission, and was every hour growing more severe.

Now, in such a case, would any practitioner of good education, and but a moderate portion of good sense, prescribe bark and cordials? certainly not, unless misled by the *insaniens sapientia*, the typhoid doctrine of books. No time was lost in balancing the supposed tendencies of the system to *synocha* and *typhus*. She was bled from a large orifice, and in a sitting posture, in order to induce fainting without drawing an immoderate quantity. When about twenty-five ounces were taken she became relaxed, and puked several times; but she was encouraged to hold out; till at last when thirty ounces were drawn, she fainted and broke into a profuse and general sweat. It had been my design to follow up this treatment with injections and purges; but as the proper indication was to preserve the system in its present state of relaxation as long as possible, it occurred to me that this could be most easily answered by giving a full dose of tartar emetic in divided portions. I was desirous also of profiting by its specific operation, if there might, perchance, be any truth in all that has been said of the self-sufficient efficacy of the Parisian and Manchester remedy. Four grains were then dissolved, and directed to be given in divided doses, until full vomiting should be produced; and it was requested that an injection of warm water should be given every hour, beginning as soon as the emetic should cease to operate.

After visiting some more distant patients I returned at the end of three hours, and was informed that the emetic had operated severely, bringing away much bile; that she had been deadly sick, and in a profuse perspiration from the time I left

her. But I was equally surprised and delighted with the happy effects of my remedies. She had now no active pain, no headach except when disturbed with noise. They had not yet thought proper to give her injections, and the abdomen was still sore and tender. She was requested to sit up in bed till eight ounces of blood were taken, when she again puked and fainted. This last blood was not near as inflammatory as the first. The injections were ordered to be begun without delay; and twenty grains of calomel, and as many of scammony were made into pills, and directed to be taken in divided doses during the next five hours.

At six o'clock I visited her again, and found that she had been purged freely, that the stools were black, and that she had been in a comfortable perspiration since my last visit. She was much better, but the fever was present, and the abdomen was sore to the touch. She was again bled in a sitting posture to the amount of six ounces, when she became faint. The injections were continued.

At ten she was still in a comfortable perspiration; the purging had been kept up by injections, and the abdomen was now compressible without pain. The last blood was inflammatory. The pulse 140 in the minute, very small and soft, tongue foul, thirst inconsiderable. It was now directed that, during the night, she should have an injection only when there might be griping pains; and, that if the skin became dry she should take nauseating doses of tartar emetic. Her drink was barley water, and her food sago.

There was now no danger of her dying of inflammation, but the chilling doctrine of *typhus* was still predominant in my mind; and, at every subsequent visit, I expected a trembling hand and low delirium, with as much anxiety as the uncertain and devious mariner will *hereafter* look for breakers on the African desert. But a gentle perspiration continued, and the whole disease went off without any further medical aid; leaving her surprised physician only the pleasing task of gradually restoring her strength. In three weeks from her first confinement she was able to do her family work.

Case IX.

On the 29th of August, I attended Mrs Rocholl with her first child, and saw her comfortably put to bed after a pretty severe but natural labour of twelve hours. Nothing particular occurred for the first six days. She had a copious flow of milk, and took two saline cathartics.

September 3d, I was called, and informed that she was taken with a chill, and that she was now only getting warm. Be this as it might, she was already in a perspiration, her headach severe, pain in the abdomen moderate, pulse 100, full and strong; milk already diminished. I had hoped that the disease would go off with the perspiration which nature had already excited, and therefore contented myself, for the present, with prescribing nauseating doses of tartar emetic, and a cathartic injection.

At the end of three hours I paid my second visit, and found the skin dry and warm, the pain more severe, the abdomen generally sore and tender to the touch; in fine, it was a true but mild case of puerperal fever; and yet had it been left to run on to the end of the seventh, eighth, or ninth hour, as was the case with all the rest, it might have proved equally severe. She was now bled in a sitting posture to fainting, and a dose of tartar emetic was given her in divided doses, until full vomiting was produced.

I saw her again at the end of two hours, and found the pain moderated, but the skin was dry and warm, and the pulse unsubdued. She was now bled again in a sitting posture until she fainted, and another dose of tartar emetic administered. This was followed by injections of warm water, and ten grains of calomel, and as many of scammony, were directed to be taken when her stomach should be sufficiently composed to receive it.

Next morning I found that the emetic had operated freely, that she had been copiously purged, and that she had perspired freely during the whole night. She had taken the cathartic about day light, and it was now beginning to sicken and purge her. There was at this time no active pain, no headach, no thirst, but very little soreness of the abdomen; and in fine, with the aid of some nauseating doses of tartar emetic, the whole disease went gradually off by an easy resolution. At

the first bleeding about sixteen ounces of blood were taken, at the second probably forty. Both portions were highly inflammatory.

In the management of the above cases I did not differ in principle from the treatment of Mr. Hey. The emetics were suggested to me at the bed-side of Mrs. Jones, as the most likely means of continuing that exhaustion of the system, and of the morbid powers; which the nature of the case required, until I could return with the lancet. They answered my views completely; and in the great relaxation of the system, produced by bleeding, they did not pain the abdomen.

Perhaps it is a matter of some importance to bleed the patient in an upright posture, in order that fainting and relaxation may be induced as quickly as possible; and certainly, if there be a typhoid puerperal fever on earth, it must there be a matter of the utmost moment; in order that the local disease may be subdued by a small evacuation, and the system left strong enough to throw off the latent causes of the typhous state. In our fever, I should consider myself as culpably negligent, if the system should be suffered to rise for a single moment. Let the patient be bled to fainting, which checks the disease, and produces at once a tendency to resolution; let this state of things be carefully preserved. even for a short time, and the patient is safe; she escapes a most painful, distressing, and comfortless death; is restored to her family, her friends, and her helpless infant.

And here, I cannot but remark, how necessary it is for remote practitioners to furnish themselves with all the sources of recent information. The safety of my two last patients I most willingly and gratefully attribute to Mr. Hey; or, to speak more correctly, the analysis of his book was the efficient cause under Providence, of saving their lives; and had it not been for the neglect of a bookseller, I should have received it long before; and thus, if my patients were doomed to die, they would not have died from a deficiency of medical science. And here too I cannot but deplore the unhappy scarcity of medical books. Of the catalogue which you kindly put into the hands of my bookseller, not a single copy could be procured in Philadelphia

or New-York; while every press is teeming with the petty novels, plays, and poems of modern taste; and every boarding-school miss can furnish her reticule with the hasty and unprofitable effusions of Byron and Scott.

Now it appears from the history of this malady, as it may be collected from books, that no other mode of practice, except Charles White's and Monsieur Doulcet's, has ever proved generally successful; and that most of the typhoid authors have found it a very formidable and fatal disease: and these were the authors that, at first, arrested my attention, and fixed my opinions. Still, however, I ventured to deviate from them, so far as to bleed pretty freely; and in the two first cases that were cured, I felicitated myself upon steering a middle path, between inflammation and *typhus;* thus pursuing the most approved practice of treating the mixed fevers, by endeavouring to obviate symptoms, and trusting to the powers of nature to cure the disease. And this too is the very treatment proposed by Darwin, as a useful modification of the practice of Dr. Gordon. But here the philosopher of Litchfield has proved the futility of theory. His practice, which was also mine, is a mere contention with symptoms, without striking at the root of the disease; and not unlike the army of Mithridates, fighting the moonlight shadow of the Romans.

From the little that I have read, seen and thought, upon the subject of this disease, I have ventured to deduce the following conclusions: that, in its simple state, it is always an inflammatory fever, sometimes rising to the grade of malignancy, producing depression, prostration, death and putridity, in rapid succession: that *perhaps* the typhous poison sometimes mingles itself with the original disease, producing a mixed and more dangerous fever, nearly allied to the *typhus gravior:* that this is to be ascertained by the constitution of the year, the character of the prevailing epidemic, and the effects of remedies: that two of my fatal cases were merely inflammatory; and three of them inflammatory malignant;—all of which ought to have been treated by copious depletion: that it is at all times a truly idiopathic fever; and may possibly be prevented, in the epidemic seasons, by fresh air, an antibilious cathartic, abstinence

from fermented and spirituous liquors, farinaceous diet, and liberal doses of bark in substance.

I am, your affectionate pupil,
and obedient humble servant,
SAMUEL JACKSON.

DR. THOMAS C. JAMES.

FOR THE ECLECTIC REPERTORY.

On the Ergot.

BY JOHN STEARNS, M. D.

Albany, 23d April, 1817.

DEAR SIR,

Your letter of the 9th inst. would have been earlier received and acknowledged, had it been directed to Albany. In reply to your enquiries relative to the ergot, I would observe, that as I have not kept a register of all the cases in which I have prescribed it, I am unable to give you the precise number. They would probably much exceed two hundred. I have been extremely cautious in the use of this remedy, and have reserved it exclusively for those cases in which the natural efforts had entirely ceased, or were totally incompetent to effect the delivery. When thus prescribed, and under circumstances favourble to its exhibition, I have experienced a greater degree of uniformity in its operation, than any in other article of the Materia Medica. Great perversion of its use, like all other novel medicines, has produced injurious effects, and consequently excited strong prejudices against it, and subjected it to a censure which it certainly has very ill deserved. But the time is not far distant, when a more perfect knowledge of its virtues, the manifest necessity and general desideratum of such a medicine, will evince to the world its high utility.

To avail ourselves of this benefit, the caution which accompanied its first publication, should be rigidly observed.

But we have every reason to believe, that the quantity has in some instances been improperly increased, and administered at too early stages of labour; or when the muscular fibres were in a state of rigid contraction: the consequences of which would

be a failure of the remedy, or an unnecessary and useless aggravation of distress. It is therefore of the highest importance, to defer the exhibition of the ergot till the labour be considerably advanced, and the os uteri in a state of complete relaxation. If these effects be not spontaneously induced by regularly progressive efforts, copious depletion should be premised. Administered under these circumstances, and the patient otherwise in a favourable condition, my experience has proved, that the ergot will invariably operate with efficacy and success. But although these general directions are necessary for those who are unaccustomed to its use, yet every one's own judgment, grounded upon long experience, will more easily suggest the train of symptoms which indicate the necessity of this remedy; and the success of which a careful observation will always enable them with certainty to predict. In every essential deviation from these rules, practitioners will be grossly disappointed in its operation, and may consequently be induced to consign it to oblivion, as a remedy extremely injurious in its effects, or totally inert; but improved experience will always convince them that its failure was attributable to its premature exhibition, to some preternatural obstruction, or to its being given in cases where the rigidity of the muscular fibres would not yield to the *vis a tergo*. And here I beg leave to remark, that the suggestion which I formerly made, of its tendency to relax the rigid fibres, subsequent experience has not confirmed.

In cases where it has been clearly indicated, I have never witnessed any injurious effects, but have frequently observed less tendency to a subsequent hemorrhage, than where it had not been prescribed. This probably results from the contractile power which the ergot had imparted to the uterus, previous to delivery; and which is subsequently continued till this viscus is reduced, and the bleeding vessels nearly closed. But although these effects are very evident, I have never prescribed it for the sole purpose of suppressing hemorrhage.

In retentions of the placenta its operation is equally successful, but must be given in less doses than in parturition. I have used it in cases of morbid menstruation, without any satisfactory evidence of its efficacy.

It was prescribed in a case of puerperal convulsions, with

astonishing success, by Dr. Waterhouse; which case you may see detailed in a late number of the New England Medical and Surgical Journal, published in Boston. This is a very important fact.

I have, on the whole, no hesitation in pronouncing the Ergot to be a valuable acquisition to the Materia Medica; and if confined exclusively to judicious practitioners, and used with due caution, will always be a safe and efficacious remedy. But it is impossible to predict the injuries it may produce in the hands of the rash and unskilful.

I am, very respectfully,
your obedient servant,
JOHN STEARNS.

DR. E. MICHENER.

FOR THE ECLECTIC REPERTORY.

On the formation of Moveable and Preternatural Cartilages on the Joints.

Extract of a letter from Lyman Spalding, M. D. to Baron Larrey, M. D. &c.

SIR,

No doubt it will be pleasing to you, to learn that your notions of the formation of moveable and preternatural cartilages of the joints, published in the essay on that subject, in your Memoirs of Military Surgery, have been substantiated by dissection.

In that essay you observe, that "physicians who have written on concretions of the joints, are divided in opinion; some suppose that they are formed in some part of the synovial membrane that lines the capsule of the joint; others, that they are formed of the adipose and vascular membrane that lies in the posterior depression, between the condyles of the femur, and and are loosened from their attachments by shocks or concussions. Again, there are others who adopt the opinion which is most generally received, viz. that a part of the synovia grows

thick in the most dependent parts of the joints, so as to form these concretions, which afterwards gradually enlarge."

In giving your own opinion of their formation, you say; "The formation of these cartilaginous concretions, is no doubt owing to some particles of the cartilaginous substance, that are crystallized on the surface of the condyles, being detached and conglomerated in the cavity of the joint; or perhaps these crystallized particles are strained through the little vessels that arise from the synovial capsule; and the concretions, thus formed, remain suspended by a *pedicle*, that breaks when they have acquired a certain volume."

During the Session of the College of Physicians and Surgeons of the western district of the state of New York, for the year 1815, one of our subjects for dissection, afforded me an opportunity of proving the correctness of your inductions.

The cartilages of most of the joints, in this subject, were so abraded, as to convince us that the subject, during his life time, had laboured under some severe affection of the joints, perhaps rheumatism; which was rendered probable, from his having been an inhabitant of a northern climate, where rheumatic affections are common. The cartilages of the condyles of the lower jaw, those of the joints of the ankles and wrists were least affected; next to those, the joints of the elbows, shoulders, and knees had suffered most, but the hip joints exhibited the greatest ravages of disease.

Almost the whole of the cartilage was eroded from the head of each thigh bone. The round ligament of the left femur was entirely destroyed; a little fibrous substance marked the place of its origin. The periphery of the heads of the femurs projected very much over the neck, as though they had been pressed upon, while yet in a soft state. This rendered the apparent neck of the femur very short. The capsular ligaments were much thickened.

Within the cavity of the left hip joint was found a cartilaginous concretion of the size and form of a small bean, attached by a fibrous pedicle to the neck of the femur, just under the projecting part of the head. The pedicle was attached to the convex side of the concretion, over which it appeared to spread in form of a membrane, resembling the tunica vaginalis of the testicle. This pedicle was about three quarters of an inch in

length, and appeared to consist of vessels and fibres. In fact, two small threads arose separately and continued the whole course, by the side of the pedicle.

This preparation is now in my possession. The concretion resembles very exactly those found in the joints. Does not this preparation settle the question, and prove incontestably, that the cartilaginous concretions found in the joints, are formed by the vessels, as you conjectured.

Permit me to add; that, while in the service of my country, I saw an infantry soldier, at Fort Constitution, who had a cartilaginous concretion in his knee joint. It was so large as to be distinctly seen and felt; but which, contrary to all other cases, gave him no pain or uneasiness while it was lost within the joint; but as soon as it appeared externally, it produced great uneasiness and even distress; which continued till it was again reduced. This he was enabled to do by a little manipulation. This case was seen by the then Secretary at War, the honourable William Eustis, M. D. and also by Dr. Joseph Goodhue, of the army.

The interesting subject of dissection, before mentioned, presented another peculiarity, which I had never before seen. On opening the abdomen we had a most elegant view of the numerous absorbent vessels, arising from the intestines, and traversing their course through the mesenteric glands, to the thoracic duct. They were rendered apparent by the whiteness of the chyle, which was arrested in its course, and coagulated in the absorbents, by the suddenness of his death; to which the immediate extinction of vital heat might have contributed.* The absorbents were fully distended with a caseous substance of about the colour of cheese made of skimmed milk. I opened some of these vessels with the point of a lancet, forced out a part of their contents, and endeavoured to inject them with quicksilver, but found it impracticable. This was the most charming view of the abdominal absorbents, which I ever beheld.

New York, December 1, 1817.

* The subject of this memoir was drowned, in the month of December, when there was much ice in the river; and, as appeared from dissection, immediately after having eaten a full meal of bread and milk.

ORIGINAL REVIEW.

Vegetable Materia Medica of the United States, or Medical Botany. No. II.

Works of this kind have their value much affected by the character of the engravings that are intended to illustrate the subject; we therefore notice with pleasure, the superiority of the present number in point of graphic stile and execution, excellent as the first unquestionably is in these particulars. With the author, we are disposed to join in commendation of the liberal spirit of the publisher, and to extend the mite of praise to the artists, whose talents have contributed so essentially to the embellishment of the work. We likewise congratulate the professor on the success of his undertaking, and cordially sympathize in the feelings excited by the extensive patronage which he has already received from a generous public. We are informed that near four hundred copies have been sold; a very encouraging proof of the estimation in which the work is held.

1. The first article introduced in the number before, us is the *Magnolia Glauca.* Respecting its medicinal properties, we are informed, that the bark of the root possesses an aromatic and bitter taste, readily extracted by ardent spirits and by boiling water. These preparations are frequently employed by the peasantry in the cure of Rheumatism. The bark of the tree and branches, reduced to a powder, constitutes an agreeable aromatic bitter which has been used in intermittents. On these occasions it is given in doses of one drachm, repeated three or four times a day; the decoction is given to the extent that the stomach will bear.

2. The *Liriodendron Tulipifera* or *Poplar*, has been the object of the highest admiration with the botanist, and lover of forest

scenery. It has likewise attracted the attention of the medical practitioner, and has been highly extolled on account of its tonic properties. It is the bark which has been used. In the year 1802, Dr. Rogers published his inaugural dissertation, in which the chemical analysis of this article appears to have been conducted with considerable precision. Dr. Barton acknowledges his obligations to this author, and has introduced copious extracts from the work. As the result of the experiments made by Dr. Rogers, we are informed, that 24 parts of the bark contain,

Of Gum about	11	parts.
Gum-mucous	6	
Resin, nearly	1	
Fecula, nearly	6.	

The muriatic acid, perhaps in combination, some iron and a portion of calcareous earth, were likewise discovered, but in very minute quantities.

The bark of the root is stated to be a very strong bitter, having rather a warm aromatic flavour; and is observed to contain an essential oil in which the latter is supposed to reside. It has long been employed by physicians in the United States as a tonic; and united with the Cornus Florida or Dogwood and the Prinos Verticillatus or Winter-berry, it has been highly recommended for the cure of Intermittents. It is stated, on the authority of the late Dr. Rush, to be equal to the common bitters of the shops.

3. *Cornus Sericea*, or *Swamp Dogwood.* In medicinal properties this appears to be closely allied to the Cornus Florida.

4. *Symplocarpus Fœtida*, vulgarly termed *Skunk Cabbage.* This is ranked amongst the antispasmodics. On the authority of Dr. Thacher, we are informed that two tea-spoonfuls of the powdered root, administered in a little spirits and water, have afforded relief in hysteria, when some of the most active remedies had failed. Like other articles, possessing similar sensible properties, it has been recommended as an expectorant, and appears to have acquired considerable reputation in relieving the paroxysms of Asthma. It has likewise been extolled as a remedy in the cure of cutaneous diseases; but here the information is by no means satisfactory.

5. *Symplocarpus Angustispatha.* This variety Dr. Barton discovered in the neighbourhood of this city. As yet he appears to have met with but two specimens. It has not been employed in medicine; and whether it possesses any peculiar virtues, experience alone can determine.

6. *Cassia Marilandica*, or *Wild Senna.* This plant is found very abundantly in New York, and in the States south as far as Carolina. It delights in a low, moist, gravelly, or sandy soil, preferring the borders of rivers, creeks, and smaller streams. It flowers during the months of July and August.

This article is well entitled to a place in the Materia Medica, being possessed of strong cathartic properties. It is but little inferior to the Senna of the shops; and, as our author justly observes, considering the latter article is liable to frequent adulteration, we think that the indigenous plant ought to be brought into general use, as a substitute for the imported Senna.

We are informed, that the proper season for collecting this plant, is about the latter end of August, or when the pods are observed to be ripe.

BIOGRAPHY.

FOR THE ECLECTIC REPERTORY.

Biographical Notice of Doctor Adam Kuhn.

BY ONE OF HIS PUPILS.

Ne quid falsi dicere audeat.

THE propensity to eulogize our deceased friends, instead of giving a faithful record of their lives and characters, is so general, and withal so natural a failing, that it is scarcely regarded as such; and the real character is thereby, too often greatly obscured, by the colouring which was meant merely to embellish it. On the present occasion it is intended to say nothing but what is believed to be strictly true; and to those who were fully acquainted with the subject of our notice, we willingly submit the following short, but we trust, candid account of a man, whose life was distinguished by correctness of manners, and uncommon usefulness, in the sphere in which he moved.

Doctor Adam Kuhn was born at Germantown, near Philadelphia, November 17, 1741, old stile. His grandfather, John Christopher Kuhn, and his father, Adam Simon Kuhn, were natives of Furfeld, a small town near Heilbronn, on the Neckar, in the circle of Suabia. They both came to Philadelphia in September, 1733. His father was a man of bright natural parts, improved by the benefits of a liberal education; and was considered as a very skilful, attentive, and successful practitioner of medicine. He was a magistrate of the borough of Lancaster, and an elder of the Lutheran Church; and was the principal, and almost the only person, who was actively concerned for the promotion of classical learning, amongst the youth of that place. For this end he procured the erection of a school-house, in which

the Greek and Latin languages were taught, by the best qualified masters. There was no one, amongst his cotemporaries, who had more at heart the spreading of religion; and there was no place of worship built throughout the country, to which he did not liberally contribute. The utmost pains were bestowed by him, on the education of his numerous offspring, to enable them to become useful members of the community.

Doctor Adam Kuhn's first studies in medicine were directed by his father, until the autumn of 1761; when he sailed for Europe, and arrived at Upsal, by the way of London, in the beginning of January, 1762; having traversed Norway and part of Sweden. He studied medicine and botany under Linnæus, and the other professors of the university of Upsal, until July or August, 1764, when he returned to London; where, it is believed, he remained a twelvemonth.

The particular estimation in which he was held by Linnæus, will be sufficiently manifested by the annexed letters of that eminent man. They will also serve to shew the correctness of his pupil's conduct, and his unremitted attention to his studies.*

At what time Doctor Kuhn went to Edinburgh cannot be precisely ascertained. He took his degree of Doctor of Medicine, in that University, on the twelfth day of June, 1767. The Thesis published by him on the occasion, *De Lavatione Frigida*, was dedicated to his friend and instructor, Linnæus.

He visited France, Holland and Germany; but whether before, or after his residence at Edinburgh, is not known.

In the month of January, 1768, he returned from London to his native country, and settled in this city; where he quickly rose to an high degree of estimation amongst his elder medical brethren; and soon succeeded to the most respectable practice.

He was appointed professor of Materia Medica and Botany, in the college of Philadelphia, in January, 1768; and commenced his first course of Botany in May following.

A society for inoculating the poor, for the small-pox, was instituted at Philadelphia in January, 1774, and Doctor Kuhn

* These letters, and a nearly literal translation, follow the present notice. It is hoped there are many, who will be gratified by a perusal of them in the original Latin of this celebrated professor.

was chosen one of the physicians. It appears from the bills of mortality for 1773, that of one thousand three hundred and forty-four persons, who died in the City and Liberties during that time, above three hundred perished with the natural smallpox. The labours of the society terminated in the April following, on account of the unsettled state of public affairs. What a happy contrast does the important discovery of vaccination offer to this affecting report!

In May, 1775, Doctor Kuhn was elected one of the Physicians to the Pennsylvania Hospital; which he attended until his resignation in January, 1798; having served the institution, with his usual diligence and faithfulness, upwards of twenty-two years. It may not be improper to add, that his medical prescriptions bore the stamp of energy and simplicity.

The Philadelphia Dispensary, for the medical relief of the poor, the first institution of its kind in the United States, was founded in 1786. Doctor Kuhn was appointed one of the consulting physicians; and ever proved himself to be amongst the foremost of its steady friends and patrons.

The college of physicians of Philadelphia was established in 1787; of which Doctor Kuhn was always an active member. On the decease of Doctor William Shippen, in July, 1808, he succeeded him as president; and was continued, during his life time, in this distinguished station.

In November 1789, he was appointed professor of the theory and practice of medicine in the university of Pennsylvania; and, on the junction of the two medical schools, of the college and university, was chosen professor of the practice of physic, in January, 1792. In 1797, he resigned his medical chair. As a teacher, he was faithful and clear in the description of diseases, and in the mode of applying their appropriate remedies; mostly avoiding theoretical discussions. His lectures were eminently calculated to form useful practitioners in the healing art; to the promotion of which his whole life was devoted. Doctor Kuhn was also a member of the American Philosophical Society.

Of his writings, nothing can be recollected but his Thesis; and a short letter, addressed to Doctor John Coakley Lettsom, on the diseases succeeding the transplantation of teeth; which was published in the first volume of the memoirs of the Medical

Society of London. This is not the only instance, in which a dislike to appear before the public, has deprived us of the experience of those, who were best qualified, by their talents and observation, to communicate instruction.

The account of men who have been uncommonly useful, although they may have passed through life without much *éclat*, is nevertheless of great importance, when they can be held up as profitable examples to survivors. Of the subject of the present notice it may truly be said, that in him were united the character of the able and conscientious practitioner. His cotemporary medical brethren will unanimously adjudge him the palm of excellence, as a physician; and his numerous patients will unite in deploring the loss of a friend, whose judgment and attention have not been surpassed.

In his common intercourse with mankind, Doctor Kuhn appeared to be reserved, but this was not his natural disposition. He placed a high value on a real friend, and, in the company of his friends, no man was more affable and communicative. His kind and unassuming behaviour to younger physicians, his manners void of ostentation, and his firmness and decision of conduct, will long be remembered.

But a most prominent feature in his character, was a strict punctuality, and observance of all his engagements. This inestimable virtue can never be too highly inculcated to a physician. The want of it is a deviation from truth, and the consequence of such deficiency is replete with endless inconvenience. It would be difficult, justly to charge him with a voluntary departure from this correct course, in the long period of nearly fifty years' practice. And whilst we admire and applaud the propriety of his conduct, an occasion like the present should not be lost, to endeavour to produce a change in the prevailing manners of our country, with respect to the fulfilment of engagements, by holding up to public view, the practice of an estimable fellow citizen, who always acted like one that regarded punctuality as a sacred duty.

Doctor Kuhn was not remarkable for the powers of imagination; but in sound judgment he greatly excelled. His talent for observation was profound. He was, through life, a studious reader; a lover of music from his youth; remarkably abstemi-

ous and regular in his diet, and neat in his person. During a long and active attention to the duties of his profession, he enjoyed so much health, as to use his carriage only in inclement weather.

He was married in May, 1780, in the island of St. Croix, to Elizabeth, daughter of Isaac Hartman, Esq.; by whom he had two sons, respectable characters, now living in Philadelphia.

For some time before his death, his bodily strength began to fail; which induced him, in the autumn of 1815, to relinquish his practice, to the great regret of the families whom he had attended. It has fallen to the lot of the compiler of the present notice, very frequently to be gratified, with hearing the expressions of regard for his medical abilities, from those who had long known him as a physician, and who continue to lament his loss.

After a confinement to the house of about three weeks, he expired, July 5, 1817, aged seventy-five years; without pain, and fully sensible of his approaching dissolution.

LETTERS.

No. I.

Viro Illustri D. D. Adam. Sim. Kuhn. S. pl. d.

CAR. LINNÆUS.

ANTE tres circiter Hebdomadas, accessit ad nos filius tuus, eximiæ spei, et moribus suavissimis imbutus; qui, tam longinquo itinere, salvus et incolumis petiit hanc academiam.

Habebit a me consilia quæcunq candidissima; paterno affectu eum prosequar, et quidquid ad ejus concurrat opem et fortunam, nullo tempore intermittam, quamdiu meis uti velit consiliis.

Apud nos addiscat Historiam, et diagnosin Morborum, Materiam medicam et Historiam Naturæ, melius et clarius quam facile in ullo loco alio. Et, si vixero, intra triennium, Medicinæ Doctor erit; non tantum nomine, sed et Doctrina.

Si sumat ille quotannis heic, eas pecunias, quas D. Wrangel

reportaret e patria, debet ab eo, manu propria scriptum, privilegium pecunias assumendi obtinere; hac ratione uterq lucretur.

Si occurras D. Bartram, qui ad me literas et plantas misit, quæso eum salutes et dicas, quod inter plantas erat unica vere nova, quæ, caule simplici, alto, foliis setaceis numerosis in caule, et facie, referebat Asphodelum; et debet, ad genus quod Helonias dicitur, referri.

Pluribus etiam salutem dicas D. Wrangel, cui plurimum debeo ob literas et infucatam amicitiam.

Cæterum, tranquille degas de filio tuo, et certus esto, quod quamdiu meis uti velit consiliis, erit apud me tam securus ac apud Patrem ipsum.

Vale, et vive diu felix.

Dabam Upsaliæ, 1762, d. 2 Februarii.

No. II.

Viro Nobilissimo, Dno. Adam. Sim. Kuhn. S. pl. d.

Car. v. Linné.

Apud me commendâsti Filium tuum, de quo jam certiora pronunciare possum. Habitat hic in domo mihi proximâ, ut queam quotidie ejus familiaritate uti, et mores ac studia intueri. Animo est semper erecto, animaque gaudet omnium candidissima; ideoque omnibus nostratibus acceptus est et gratus.

Indefesso fertur in partes omnes medicinæ studio; nec ullam sinit horam frustra labi. Incipit jamdudum gustare scientiæ delicias. Materiam medicam quotidie apud me avidissime haurit. Historiam, s. semioticen, Morborum egregie et solide addidicit. In Historia Naturali et Re herbaria insignes fecit progressus, nunquam profecto pænitendos: ita ut quondam, V. D. aliis, quam dum abierat, patriam suam videbit oculis. Anatomica et Physiologica apud alios audivit. Proxima æstate, sub feriis, mecum rus petat, ad prædium meum urbi proximum, quo queat in inceptis quotidie proficere. Miratus sum quod nostalgia nunquam sit correptus: unice doluit quod nullas a Patre optimo habuerit literas. Tu ausus fuisti in peregrinum orbem mittere carissimum filium; dum fata eum restituant, peream si hoc unquam dolebis. Verbo; vivit maxime sobrius et castissimus. Curat attente suam œconomiam; nec ullæ juventutis illecebræ, quæ solent illaqueare adolescentes, eum cepere. Proinde, de filio hoc tuo tibi mihique gratulor; et sanctissime testor, me nunquam novisse quenquam, moribus honestiorem, aut diligentia superiorem hoc tuo; quod mea fide spondeo.

Upsaliæ, 1763, d. 24 Februarii.

No. III.

Amicissimo suo Dno. Kuhnio, S. pl. d.

CAR. LINNÉ.

Hodie tuas accipio, Amicissime, et magnopere lætor quod T. O. Deus Te salvum perduxerit in Angliam; spero quod ille idem et Te reddat feliciter Tuis! Lætantur mei meæq, quod Te valere perceperint et perplurimum salutant.

Theologiæ Professor Wallerius, Professor Dahlman, et uxor Dni. Amnel, hac æstate, morbis succubuere.

Audivi plurima de illustrissima Dna. Monsonia, quam colo, quam veneror præ omnibus in toto orbe Dominis; devotissima mea ei millies dicas, oro rogoq.

Accepi nuper Cimicifugam, Acteæ speciem, vivam e Sibiria; quod valde lætatus sum.

Habeo plura nova genera, ex India orientali, nondum descripta; possem et vellem, lubenter, unum ex his consecrare in æternam memoriam suavissimæ Dnæ. Monsoniæ; sed optarem obtinere aliquam pulcherrimam, quam posset habere in suo horto; si illa habeat quandam novi generis ipsa, et eam siccam ad me mitteres, mox videbis me officio functum.

Genera, nova editione, prodiere, in quibus tuum genus est definitum. Prodiit, et S. Regina museum; vellem hæc duo opuscula Tibi dare, si scirem cui traderem.

Nullus dubito quin D. Solander egregie suas rariores descripserit plantas, cum erat e meis solidissimus Botanicus; ipsum plurimum salutes.

Fata Dni. Forscallei præ reliquis doleo, nec a lacrymis me potui obtemperare; ejus jactura, amisit scientia, pulcherrima, plura quam cogitare sustineo.

Fac ut sciam quo properes, quam petas regionem, quæ pulchra observas; et permane sincerus amicus, uti ego tuus ero. Vale, et vive, mei memor.

Upsaliæ, 1764, d. 8. Octobris.

No. IV.

Viro Clarissimo Dno. Adam Kuhnio, Amico suo dilectissimo, S.

CAR. A. LINNÉ, EQU. AUR.

Ex literis intellexi, Te, brevi, eruditionis tuæ primum editurum specimen, de *vi et effectu Aquarum frigidarum in corpus humanum:* hinc non potui, non de hocce opusculo, Tibi animitus gratulari; cum,

quæcunque Tibi fausta et felicia contingant, mihi ipsi tanquam propria reputabo semper. Tua apud nos memoria perennis durat; ab eo enim tempore, quo, e felici tua Pennsylvania, solvisti, Upsaliamq nostram attigisti, Te semper ut filium charissimum prosecutus sum, ob mores tuos antiquos et suavissimos, quibus e peregrinis nullus te superavit; ob diligentiam indefessam, qua nullus ardentior scientias coluit; ob infucatam tuam amicitiam, qua nullus tui par extiterit. Nihil itaque amplius mihi in votis erit, quam quod, brevi, tuis redditus, felicissimus diutissime floreas, et Patriæ tuæ stupendas gazas legas; quo sperare licet me tuis oculis visurum Regionem pulcherrimam, abundantem tot raris Mammalibus, Avibus, Amphibiis, Piscibus, Insectis, &c. quot vix, ac ne vix, Terra alia ulla. Videor enim me videre te exspatiantem in Lucis tuis, inter *Liriodendra*, *Magnolias*, *Annonas*, *Cephalanthos*, *Chionanthos*, *Aceres*, *Quercus*, *Hamameles*, *Xanthoxyla;* interstinctas *Liquidambaris*, *Lauris*, *Sassafris*, *Cratægis*, *Spiræis*, *Kalmiis*, *Cornoflorida*, *Rhoibus*, *Viburnis*, *Itea*, *Galace*, *Lecheis*, *Clethra*, *Hydrangea*, *Moscheuto Hibisci*, *Smilacibus*, *Bignoniis;* in quibus terra strata et disseminata, *Helianthis*, *Rudbeckiis*, *Solidaginibus*, *Asteribus*, *Eupatoriis*, *Kuhnia tua*, *Hedysaris*, *Hudsonia*, *Asclepiadibus*, *Oenotheris*, *Lobelia cardinali*, *Phlogibus*, *Gentianis*, *Monardis*, *Ellisia*, *Houstonia*, *Mitchella*, *Gaultena*, *Epigea*, *Andromedis*, *Vaccinis*, *Panace*, *Dodecatheo*, *Arethusis*, *Orchidibus*, *Trilliis*, *Liliocanadensi*, *Sanguinaria*, *Podophyllis*, *Hydrastide*, *Saraceniis*, *Eriocali*, *&c.* dum *Trochili*, motitantes auratas alas, hauriunt Nectara *Chelones*, et *Turdi polyglotti* et *Orphei* resonant millenis concentibus inter turbas vocalium avium e summitatibus arborum. Sed paradisi Tui delicias enumerare, ne dum enarrare, vix sufficeret annus; ultimo, oro; quod, dum redux, oculi pascuntur florum tuorum voluptatibus, mei memor vivas!

Dabam Upsaliæ, 1767. *Feb.* 20.

No. V.

Viro Clarissimo Dno. Adam Kuhnio, in Philadelphia Botanices Professori, S. pl. d.

CAR. A LINNÉ.

Tuas V. A. d. 12, Januarii datas, hodie accepi, et summo cum gaudio percepi, Te professorem Botanices et Materiæ Medicæ in Atheneo Philadelphico constitutum; de quo, ex intimo corde gratulor. Hoc dixi uxori et liberis, qui omnes, de tua hac fortuna, summum mecum percepere gaudium.

Quod jussisti de societatibus exsequar, quam primum ad me literas dederis a patria Tua.

Ad finem, hisce diebus, perduxi systematis naturæ tomum primum, qui continet circiter 90 plagulas; Typum subiit nunc alter tomus, in quo D. D. Hope videbit suam *Hopeam* a D. Garden missam.

Clavis meus *medicinæ*, qui prodiit ante annum, forte Tibi pro Materia Medica esset utilis; utinam scirem qûi ad te perveniret; constat tantum 2 phyliris s. plagulis s. paginis, 32.

D. Walkerum optime novi ex scriptis, inter zoophyta multoties eum allegavi; acutissimum virum etiam atq: etiam oro plurimum salutes.

Vidi equidem oculos sepiæ, et videbis me non negasse huic oculos; tamen etiamnum non convictus, quod sint veri oculi; forte aliquod sensus organum nobis ignotum.

Scripsi, nisi fallor, quod, preterito anno, celebravimus nuptias puellæ Gran Caissæ, s. Wacker Caissæ; illa jam habitat in Huggby; non in tua domo, sed altera; et duxit Anders Ersen, filium rustici ibidem; in ejus nuptiis, in tuam salutem hausimus.

Tota mea familia Te plurimum salutat, et iterum iterumq salutant.

Dabam Upsaliæ, 1767, d. 26 Februarii.

Si occurras Ampliss. Hope, pro me ab eo exora aliquot semina Americana; nonnulla e prioribus, ab ejus munificentia missis, germinarunt et excreverunt. D. Bæckman, Germanus, qui successit in locum et Cameram tuam, atque apud me hæsit per annum cum dimidio, jam etiam professor constitutus est Histor: naturalis Goettingæ.

D. König, antea meus, præterito anno rediit ex Islandia; cum plurimis novis in scientia naturali.

Dum proxime scribas, titulum Epistolæ, Societati Regiæ Scientiarum Upsaliæ: ipse enim omnes literas aperio, adeoq sine involucro s. convert.

No. VI.

Amico suo integerrimo, D. D. Adam Kuhn, Profess. Botanic. Philad.

S. pl. d.

CAR. LINNÉ.

Cum opportuna detur occasio literas ad Te mittendi per juvenem Theologum nostratem, qui felicissimam adit Pennsylvaniam ves-

tram, nequeo non hisce Te plurimum salutare, et eum, vere Doctum apud Te commendare.

Plurimum Tibi debeo pro actis *societatis* vestræ, quodq; me, numero sodalium vestratum, adnumerare voluisti. Hæc indicia manifesta fuere affectus Tui calidissimi in me, quem semper magni faciam.

Frater tuus jam degit Upsaliæ, et apud me ter tantum fuit; est, ut facie, ita et moribus candidissimis, Tui simillimus.

Mitto cum hisce, *Mantissam* meam alteram, quam forte non dum vidistin.

Utinam dares orbi dissertationem de *Asteribus* vestratibus, quos habetis numerosissimos; et in iis erueres notas specificas sufficientes, cum hoc genus nobis Europæis est difficillimum.

Ad accessum hujus nostratis Theologi, alius a vobis ad nos accedat. Oro itaq obtestor, quod cum eo mittas aliquot plantas siccas et aliquot semina, inter quæ avidissime expeto semina *Kuhniæ*, quæ in horto nostro periit.

Habeo jam duos discipulos ad *Cap. Bon. Spei.* D. Tunberg et Sparrmann; qui diligenter plantas legunt; horum Tunberg, post annum, cum legatione Belgica adibit Japoniam.

Tota mea familia Te valere jubet; et ego, dum vixero, Tuus ero. Ter vale.

Upsaliæ, 1772, d. 20 Novembr.

TRANSLATIONS.

No. I.

Upsal, 2d February, 1762.

MR. ADAM S. KUHN,

SIR,

About three weeks ago, your son, of great promise, and endowed with most engaging manners, arrived here; who, after so long a voyage, has reached this Academy in safety and good health.

He will receive from me the most disinterested advice; I will cherish him with paternal affection, and will at no time omit any thing that can contribute to his assistance or advancement, as long as he may chuse to avail himself of my counsels.

At this Academy he can learn the History and Diagnosis of diseases, Materia Medica and Natural History, better and more tho-

roughly than perhaps in any other place. And if I should live for three years more, he will be a Doctor of Medicine, not only in name, but also in knowledge.

If he is to expend yearly in this place, the same sum which Mr. Wrangel is to bring back from his country, he ought to obtain from him a written order, under his own hand, of taking up money; in this manner both will be benefited.

If you should meet Mr. Bartram, who wrote to me and sent me some plants, I beg you to make my respects to him, and tell him, that amongst the plants there was only one that was really new; which, with a high single stalk, with numerous setaceous leaves on the stalk, resembled in appearance the daffodil, and should be classed with the genus Helonias.

Remember me affectionately to Mr. Wrangel, to whom I am under great obligations for his letter and his undissembled friendship.

And now, you may live at ease as it respects your son; and remain assured, that as long as he is disposed to take my advice, he will be as safe with me as with his own father.

Farewell, and may you live long, and prosperously.

No. II.

Upsal, 24th February, 1763.

Mr. Adam S. Kuhn,

Sir,

You recommended your son to my care, concerning whom I am now able to speak with more certainty. He lives in a house next door to me, so that I can daily enjoy his conversation, and inspect his morals and studies. His mind is always aspiring, and his very amiable disposition gives general satisfaction; so that he is beloved and esteemed by us all.

He is unwearied in his studies in every branch of medicine; nor does he suffer a single hour to pass by, unimproved. He long since began to taste the sweets of science. He daily and faithfully studies Materia Medica with me. He has learnt the symptomatic history of diseases, in an accurate and solid manner. In Natural History and Botany, he has made remarkable progress; such indeed as he will never repent; so that, God willing, he will hereafter see his country with different eyes, than when he left it. He has studied Anatomy and Physiology with other Professors. Next summer, during the vacation, he can go to the country, to a farm of mine,

very near the city, where he may make daily progress in the studies he has commenced. I have been surprised that he has never been afflicted with home-sickness; the only thing that has caused him uneasiness, was not receiving any letters from the best of fathers. You have ventured to send your beloved son to a foreign country; should it be his fate to return to you, I will engage that you will never repent what you have done. In a word; he lives in the most temperate and correct manner. He observes good order in the management of his affairs; nor have any of the allurements of youth, which are apt to ensnare young men, made an impression on him. Therefore, I congratulate both you and myself on this your son; and I declare, most sacredly, that I have never known any one more correct in deportment or superior in application.

For the truth of this I pledge my honour.

No. III.

Upsal, 8th October, 1764.

Mr. Kuhn,

My Dear Friend,

I this day received your letter, and rejoice exceedingly that the All Gracious God has conducted you in safety to England; and I hope that He also will grant you a safe return to your friends.

My whole family was extremely glad to learn that you were well, and desire to be affectionately remembered to you.

Wallerius the Professor of Theology, Professor Dahlman, and the wife of Mr. Amnel, have died, this summer.

I have heard a great deal of the excellent Mrs. Monson, whom I esteem and honour more than any other woman in the world; I pray and beseech you to make my most devoted respects to her.

I lately received from Siberia, a live Cimicifuga, a species of actea, which gave me infinite pleasure.

I have many new *genera* from the East Indies, not yet described; I could, and willingly would, consecrate one of them to the perpetual memory of the engaging Mrs. Monson; but for that purpose I would wish to procure the most beautiful plant in her garden. If she has any of a new genus, and you will send it to me, dried, you will quickly find that I have fulfilled my intention.

A new edition of the genera has appeared, in which your genus is described; the Museum of the queen's society has also been published. I could wish to send you these two small works, if I knew to whom to intrust them.

I have not the smallest doubt that Dr. Solander has admirably described his scarce plants, as he was one of the most solid Botanists amongst my pupils: I beg you to give my best respects to him.

I lament, beyond measure, the untimely end of Mr. Forscalleus; and it was not in my power to refrain from tears. In his death the best interests of science have sustained a greater loss than I can bear to think of.

Continue to inform me of your movements; let me know what countries you visit, and what you meet with worthy of observation; and remain my stedfast friend, as I shall ever remain yours.

Farewell, continue to remember me.

No. IV.

Upsal, February 20, 1767.

Mr. Adam Kuhn,

My Dear Friend,

I have learnt from your letter, that you are about to produce the first proof of your acquirements, in an essay, *On the power and efficacy of the Cold Bath on the Human body;* I therefore cannot refrain from heartily congratulating you on this little work, since I shall ever regard what occurs favourable and fortunately for you, in the same light as if it had happened to myself; for, from the period in which, having set sail from the shores of your favoured Pennsylvania, you reached our city of Upsal, I have ever cherished you as a beloved son, for your correct and engaging deportment, in which none of the foreigners excelled you; for your unwearied ardor and application in cultivating the sciences, in which you were surpassed by no one; for your undisguised friendship, in which none could have equalled you. Nothing will be more ardently desired by me than that, being speedily restored to your friends, you may long prosperously flourish and collect the wonderful treasures of your country; where I may hope to see, with your eyes, a most beautiful region, abounding with as many rare Mammalia, Birds, Amphibia, Fishes, Insects, &c.* as perhaps any other country in the world. For I seem to myself to behold you wandering in your native woods, amongst Liriodendrons, &c.* interspersed with Liquidambars, &c.* amongst which the ground is strewed and covered with Helianthuses, &c.* while the Humming Birds, shaking their

* It was not thought necessary to repeat all these particulars in the translation: they will be found in the original.

golden wings, sip the nectar of the Chelone, and the different kinds of Mocking Birds, join in a thousand melodious notes, amongst hosts of winged songsters, from the tops of the trees. But a year would scarcely suffice to enumerate, much less to describe the enjoyments of your paradise. Finally I beg, that when on your return, your eyes are feasting on the delights of your flowers, you may still remember me.

No. V.

Upsal, 26th February, 1767.

Mr. Adam Kuhn,

My Dear Friend,

I this day received your letter dated 12th of January, and observed with the greatest pleasure, that you have been appointed Professor of Botany, and Materia Medica in the College of Philadelphia; on which I most cordially congratulate you.*

I mentioned this circumstance to my wife and children, and they all participate the great joy, which your good fortune has occasioned me.

I shall attend to your request respecting the societies, as soon as you write to me from your own country.

Within these few days, I have brought to a conclusion, the first volume of the Systema Naturæ, which contains about ninety sheets; a second volume is now in the press, in which Mr. Hope will see his *Hopea* sent to me by Mr. Garden.

My Clavis Medicinæ, which was published upwards of a year ago, might possibly be of service to you in the Materia Medica; I wish I knew how it could reach you; it consists of two sheets only, containing thirty-two pages.

I am well acquainted with Mr. Walker from his writings, and have frequently quoted him when treating on the zoophytes. He is a most ingenious man, and I beg you to make my respects to him.

I have indeed seen the eyes of the cuttle-fish, and you will find that I have not denied their existence; but still I am not convinced that they are really eyes; perhaps some organ of sense, to us unknown.

I wrote, if I mistake not, that we last year, celebrated the nuptials of Miss Gran Caissa. She now resides at Huggby; not in your house, but in the adjoining one. She married Andrew Ersen,

* There must be some mistake here; Doctor Kuhn was appointed Professor of Materia Medica and Botany in January, 1768.

the son of a farmer at that place. At her wedding we drank to your health.

My whole family desires to be most affectionately remembered to you.

If you should meet the celebrated Hope, beg from him some American seeds for me; many of those formerly sent, through his kindness, germinated and sprouted.

Mr. Bæckman, who succeeded to your place and chamber, and remained with me a year and a half, has already been appointed Professor of Natural History, at Göttingen.

Mr. Konig, a former pupil of mine, returned last year from Iceland, with many new things in natural science.

When you next write, address your letter to the Royal Society of Sciences, Upsal; for I open all the letters myself; therefore there is no occasion for a cover.

No. VI.

Upsal, 20th November, 1772.

MR. ADAM KUHN.

MY DEAR FRIEND,

As a good opportunity offers of sending a letter to you by a young clergyman* of ours, who is going to your favoured Pennsylvania, I cannot let it pass without writing, to pay my respects to you, and to recommend him to you, as a truly learned man.

I am very much obliged to you for the transactions of your society,† and for having admitted me into the number of your members. This is evidently owing to your warm attachment to me, which I shall ever highly value.

Your brother now resides at Upsal. He has been with me but three times. He resembles you extremely, both in his appearance and engaging manners.‡

I send with this, my second Mantissa, which perhaps you have not yet seen.

I wish you would give to the world a dissertation on the *Asteres* of your country, which are very numerous; and that you would mark

* Doctor Nicholas Collin, the present pastor of the Swedish Church at Philadelphia.

† The American Philosophical Society.

‡ Daniel Kuhn, appointed pastor of the Swedish Church at Christiana, near Wilmington, Delaware; who died at London, without returning to his native country.

accurately their specific characters, as this genus is extremely difficult to us Europeans.

On the arrival of this clergyman of ours, another may possibly come to us from you; in that case, I pray and intreat you, to send me some dried plants and some seeds; amongst which I most ardently wish for the seeds of the *Kuhnia*, which perished in our garden.

I have at present two pupils at the Cape of Good Hope, Messrs. Tunberg and Sparmann; who are assiduously engaged in collecting plants. Next year, Tunberg will go to Japan, with the Dutch Legation.

My whole family unites in wishes for your welfare.

I am yours, whilst I live. Farewell.

MEDICAL AND PHILOSOPHICAL INTELLIGENCE.

Extract of a Letter from a Physician, at Florence, to his Friend in Philadelphia, dated October 12, 1817; *on the state of Medical Science in Italy.*

My Dear Sir,

Permit me to give a brief sketch of the principal medical schools, and a slight notice of the leading professors; imperfect 'tis true, but given with the hope that it may not be displeasing to you. Pavia, Bologna, and Pisa, are the three most celebrated cities of the day, for medical instruction. The ancient fame of the first, is supported by the genius and exertions of Scarpa, aided by his fellow professors Borda, Buccellati, and Racchetti; the last is teacher of Pathological Institutes. The very extensive collection of morbid subjects, showing every stage of disease with its corresponding effects, enables this last branch of medicine to be taught with peculiar advantage.

Bologna may vie with Pavia, in the antiquity and celebrity of her university; which could, at one time, boast of twelve thousand scholars, in all the branches of science; but, in common with all other similar establishments in Italy, declined very much; and at present, the number of young men who attend does not exceed five hundred. The names of Malpighi and Galvani, are however, of themselves, sufficient to entitle her to our respect, nor do the zeal and talents of her sons suffer any diminution; for at this moment she can boast of having one of the first physicians of Italy, in the person of *Tommasini*, professor of the Institutes and Practice. He has contributed much by his labours to improve our science, and is now one of the leaders in bringing about a reform of it. He has written on the Yellow Fever, on Diathesis, Inflammation, &c. His coadjutors are, in Anatomy, *Mondini*, and in Midwifery, *Terminini*; also *Rubini*, who has written on Irritation. I had heard much of the

anatomical, and other preparations at Bologna, and was accordingly induced to visit it; but must avow my disappointment on the occasion. There is, it is true, one room set apart for the purpose; in which are represented, all the different states of the gravid uterus, with the presentations natural and unnatural, during labour, together with various monstrosities of fœtuses, having double organs, or being deficient in some. Bologna is the chief school of medicine in the Roman states, and far exceeds the ancient capital itself, in the successful cultivation of this branch of science.

Pisa ranks as the first school in Tuscany; but in place of the thousands that used formerly to crowd her halls, she is now attended but by some hundreds. The man of the greatest talents with her, now, is a Doctor *Francesco Vaccà Berlinghieri*, better known by the second name Vaccà. As physician and surgeon, he stands the foremost in the dukedom; he has written a work on *Physiology; Remarks on the principal diseases of the human body; Meditations on Man in a state of disease*, and on the doctrine of Brown.

Neither Rome nor Naples deserve particular notice on the score of their medical establishments, exclusive of the hospitals; which are both large and numerous.

To the names already mentioned, we may add those of *Palloni* of Leghorn, who has written on the Yellow Fever, *Brera* and *Boradioli* of Padua, *Testa* (dead) on organic action and reaction, *Botto* on cerebral commotion, *Franceschi* of Lucca, whose work on *Baths* is much esteemed, *Giannini* on the nature of Fever; this is said to be a work of great merit; *Jemina* on nervous and petechial fever, *Scavini* and *Carraveri* of Turin, *Guani* of Genoa, &c. I have been the more minute in detailing the names of these men and their works, from their having had great influence, directly or indirectly, in furnishing proofs in favour of the new *Italian Doctrine*, as it is called here, in the support and promulgation of which, *Rasori* of Genoa, *Tommasini*, *Borda* and *Mantovana*, have taken the most active part; the first is regarded as the founder of the theory.

It is now time to say a few words on this city (Florence). Since the death of *Mascagni* there seems to exist a degree of interregnum here, as no one of equal celebrity has yet supplied

his place. The present professor of anatomy, is Doctor *Ucelli;* of surgery, *Guintini;* of the institutes and practice, *Chiarugi.* The facilities of study here are very great, there being two large hospitals, that of *St. Maria Novella* and of *St. Bonifacio;* either capable of containing some thousand patients, kept in the best order, and attended daily by three surgeons and the same number of physicians. Connected with the first, is another institution, called hospital of the Innocents, where those children deserted by their parents are taken in, fed and clothed. In *St. Maria,* the course of lectures, in the various branches of medicine, is given for five or six months, commencing in November. The professors are paid by government, and the young men have liberty to attend them *gratis;* twenty-five constantly reside in the hospital, and have rooms and boarding allowed them. St. Bonifacio is the military hospital, and also the one appointed for the reception of those suffering under mental diseases.

I have not been unmindful of your wishes, that I should enquire into the mode of making preparations of the absorbent system, but have not been able to obtain satisfactory information, and the season is rather early yet for dissections. I have seen here the skin of the whole body, which had been taken off and afterwards stuffed, so as to preserve its original form. The spine and muscles of the trunk, and the viscera, are removed by making an incision all the way down the back, and then dissecting back the skin. To take out the muscles, &c. of the extremities, an incision is made on the inside of these parts. The superficial veins, on many occasions, are shown in this way, but I have seen none of the absorbents precisely as you have them; for the external skin when dry, would, it appears, prevent the display of the superficial absorbents. After the external skin is taken off, and the mercury introduced into the lymphatics of the surface, the cellular membrane, dried, might present the appearance which your preparations do now. As respects the other vessels, they are displayed as accurately, and neatly, with us, as here. Should any additional opportunities occur, of my seeing the absorbents prepared, I shall certainly avail myself of them, and inform you of the result.

But what constitutes the boast of Florence, in an anatomical point of view, is the *Physical Cabinet,* or Royal Museum of

Natural History. There are in it fourteen large rooms, filled with preparations of all the parts of the human body, in wax; and executed in such an admirable manner, that many spectators are deceived, believing them real. In one room is represented all the bones, in others the muscles, layer after layer, from the abdominal down to the most minute ones of the glottis. Then come the joints; then the bloodvessels; the various viscera in every possible point of view; innumerable models of the organs of sight, hearing, &c.; every ramification of the nervous and absorbent systems. In other rooms again, are all the organs of generation, male and female, with representations of the different stages of gestation, and of labour; fœtal growth, circulation, &c. What gives these preparations in wax a decided superiority over the dried ones, is, that the former represent every part in the most natural manner, and presenting precisely the same appearance as would be exhibited by recent dissection. Over each case or preparation, is a plate of the parts, and the names of those concerned given. Here may the student pass whole days, aye months, with instruction and pleasure, and even the professor could not but consider his time well spent, in devoting a few hours, to the contemplation of the objects here presented.

In a gallery, and other 16 rooms, there is a most extensive collection of Natural History, of Mineralogy, and the scarcest plants and flowers, represented in wax, so as to present the appearance of perpetual bloom. This museum is open, gratis, to the public every day, from eight o'clock in the morning until one. Guards are constantly in attendance, to keep every thing in order.

The Abbe *Fontana*, now dead, was the superintendent, and under whom most of the preparations in wax were executed, by *Sossini*, also dead. One of the best dissectors and preparers of subjects as models, was *Bonicoli*. The present superintendent, is *Contebardi*, and the labourers in wax, are the *Calenzoli*, father and son. I have had some little conversation with them, on the time, &c. taken up in completing the collection in the cabinet; Calenzoli, the father, who was the coadjutor of Sosini, says, that it took them thirty-five years, before all was finished. At this time he is attached to the cabinet, for the purpose of repairing what may be broken, or of making additions.

On the preservation of Grapes: by Dr. John Redman Coxe.

On the second of October, 1817, I carefully cut off a very fine bunch, and placed it in an earthen jar, covering it completely with dry white sand, and put it away to be opened on Christmas day. On the twenty-ninth of the same month, another of the few remaining bunches was cut off, and put away in a similar manner, and was intended to be taken out on the first of February. On Christmas day, about twelve weeks from the time I gathered the first bunch, it was taken from the jar, as firm, and as fresh as when first deposited.—The other was forgotten until the twenty-second of February, when it was found quite as sound and perfect as when pulled.—From its having been left so much longer than the first, it was, when taken from the vine, rather shrivelled; but this had not increased from its long confinement of nearly three months;—as to its taste and excellence, it was equal to any before eaten, and infinitely superior to those, which, at so much expense and trouble, are brought to us, from Spain and Portugal.—*American Daily Advertiser, of March* 7, 1818.

National Pharmacopœia.

The Medical Society of the state of New York, have issued a circular letter to their medical brethren, throughout the United States, on the subject of forming an American Pharmacopœia.

Vaccination.

Extract from the statement of the proceedings of the Philadelphia Vaccine Society, published by the managers, February 6, 1818.

"It is now nine years since the society was established; at that period violent prejudices existed against vaccination; with great numbers, those were so strong, that they rejected it when offered at their doors.—The members of the Vaccine Society, arranging themselves into district committees, laboured personally, and with much perseverance, to overcome this oppo-

sition; their exertions were in a great degree successful; the prejudices gradually lessened, till they have now almost disappeared.

"In 1809, the first year of its establishment, the society vaccinated, successfully, one thousand one hundred and two persons; and nearly ten thousand, in the seven succeeding years. As the Corporation provided, by law, in 1816, for the vaccination of the city poor, our operations are now restricted to the Northern Liberties and Southwark; in which districts our physicians vaccinated 834 persons during the last year. The whole number of successful cases reported to the society, is, *eleven thousand four hundred and sixty-seven.*

"It is true, that under the blessing of Divine Providence, the ravages of the small-pox are now greatly diminished; yet, within the two last years, *one hundred and forty-eight of our fellow citizens have fallen victims to this pestilence.* It is now spreading throughout a large section of the country; and we are fully persuaded, that vaccination is the only effectual barrier which can be raised against it.

"The managers therefore trust, that the members of the society, and the public, will continue to patronize this institution; which has, for its sole object, the preservation of our fellow creatures, from a loathsome and dangerous disease."

The managers of the Philadelphia Vaccine Society, have undertaken to furnish the vaccine infection, gratis; practitioners may be constantly supplied, by calling at the drug and medicinal store of *Daniel B. Smith*, No. 33, Market Street.

Proposed cure for Canine Madness.

New Orleans, Jan. 16.

Mayoralty of New Orleans.—Mr. Chabert, a physician from the university of Montpellier, lately arrived in this city, has just made known to me a remedy for the canine madness, which has been pointed out as a specific by the Italian physicians.

The remedy was published in the Piedmontese Gazette of the 8th of May last, from which it was literally copied, by Mr. Chabert himself, before his leaving France. The discovery of it is due to professor Brugnatelli, and it would be the more ad-

vantageous, to try by experiments, the confidence which it may be entitled to, that the use of the remedy can occasion no dangerous consequences.—I therefore consider it my duty, to make it known to my fellow citizens, by publishing the following, as it has been transmitted to me.

"Thanks to the celebrated professor Brugnatelli an efficacious remedy, has at last been discovered, against canine madness, perhaps the most horrid of all diseases. That remedy consists in hydrochloric acid (muriatic ox: aqueux) used as well inside of the body, as on the exterior parts of it. The wound produced by the bite of mad animals, must be washed with it. It appears that that substance destroys the hydrophobic poison, even when used several days after a bite. A number of well authenticated cures, operated by that simple means, in the great hospitals of Lombardy, do not permit to doubt the powers of that precious remedy."

New Orleans, January 15, 1818.

AUG. MACARTY, *Mayor.*

DIED, on the 22d of January, 1818, in the fifty-eighth year of his age, *Caspar Wistar*, M.D. Professor of Anatomy in the University of Pennsylvania, President of the American Philosophical Society, President of the Pennsylvania Society for promoting the abolition of Slavery, &c. &c. and one of the Censors of the College of Physicians of Philadelphia.

A discourse, entitled, a *Tribute* to the Memory of Doctor Wistar, was delivered, in the Hall of the College of Physicians and Surgeons, at New-York, on the 26th day of January, 1818, by Doctor David Hosack.

An Eulogium on Doctor Wistar, was delivered before the Members of the Philadelphia Medical Society, in this city, February 21, 1818, by Doctor Charles Caldwell.

An Eulogium on Doctor Wistar, was also delivered, by William Tilghman, Chief Justice of the State of Pennsylvania, March 11, 1818, before the American Philosophical Society.

Transactions of the American Philosophical Society, held at Philadelphia, for Promoting Useful Knowledge, VOL. I. New Series, 1818.

This important Volume contains, amongst other things, the following valuable papers:

1. On the Geology of the United States; by W. Maclure.—2. Astronomical Observations; by Andrew Ellicot.—3. Longitude of the Capitol at Washington; by William Lambert.—4. Investigation of the Figure of the Earth; and of Gravity in different Latitudes; by Robert Adrain.—5. On Leaden Cartridges; by W. Jones.—6. Heights of Mountains in New York, New Hampshire and Vermont; by Captain Partridge.—7. On the Aborigines of America; by H. H. Brackenridge.—8. On Platinum, Palladium, and Rhodium; by Jos. Cloud.—9. An attempt to ascertain the fusing temperature of Metals; by Jos. Cloud.—10. Inquiry why Metals in a solid state, appear lighter than when in fusion; by Jos. Cloud.—11. Observations on the Formation of Kentucky; by M. Correa de Serra.—12. Solution of a Problem in Arithmetic; by James Austin.—13. Geological formation of the Natural Bridge in Virginia; by F. W. Gilmor.—14. Analysis of the Blue Iron Earth of New Jersey; by Thomas Cooper, M. D.—15. On Vanishing Fractions; by J. Mansfield.—16. Pyrometrical Experiments; by F. R. Haslar.—17. English Phonology; by P. S. Du Ponceau.—18. On Fossil Remains; by the Rev. H. Steinhauer.—19. Extirpation of a large Wen; by J. S. Dorsey, M. D.—20. Improvement on Leslie's differential Thermometer; by E. De Butts, M. D.—21. A New Rolling Draw-Gate; by N. Sellers.—22. Indian Fort near Lexington, Kentucky; by C. W. Short, M. D.—23. An improved Piston for Steam Engines; by P. A. Browne.—24. On Bleaching; by Thomas Cooper, M. D.—25. Appendage to a reflecting Sector; by R. Patterson,—26. Instrument for setting up Sun Dials; by R. Patterson.—27. Observations on the Climate in the neighbourhood of the Delaware; by the Reverend Nicholas Collin.—28. On the mean Diameter of the Earth; by Robert Adrain.—29. Improvement on the Ship Pump; by Robert Patterson.—30. On the processes of the Ethmoid Bone; by C. Wistar, M. D.—31. On two heads found in the Big Bone

Lick; by C. Wistar, M. D.—32. Case of Respiration by means of one side only of the Thorax; by C. Wistar, M. D.—33. On Chondropterygious Fishes; by C. A. Le Sueur.—34. Investigation of a theorem proposed by Dr. Rittenhouse; by Owen Nulty.—35. Monograph of American Insects of genus Cicindela; by Thomas Say.—36. Substitute for a Ship's Pump; by R. Patterson.—With other miscellaneous articles.

The Second Part of the Philosophical Transactions of the Royal Society of London, for 1817, has just been published, and contains the following papers:

13. Description of a thermometrical Barometer for measuring Altitudes. By the Rev. Francis John Hyde Wollaston, B.D. F.R.S.—14. Observations on the Analogy which subsists between the Calculus of Functions and other Branches of Analysis. By Charles Babbage, Esq. M.A.F.R.S.—15. Of the Construction of Logarithmic Tables. By Thomas Knight, Esq. Communicated by Taylor Combe, Esq. Sec. R.S.—16. Two general Propositions in the Method of Differences. By Thomas Knight, Esq. Communicated by Taylor Combe, Esq. Sec. R.S.—17. Note respecting the Demonstration of the binomial Theorem inserted in the last Volume of the Philosophical Transactions. By Thomas Knight, Esq. Communicated by Taylor Combe, Esq. Sec. R.S.—18. On the Passage of the Ovum from the Ovarium to the Uterus in Women. By Sir Everard Home, Bart. V.P.R.S.—19. Some further Observations on the Use of Colchicum autumnale in Gout. By Sir Everard Home, Bart. V.P.R.S.—20. Upon the Extent of the Expansion and Contraction of Timber, in different Directions, relative to the Position of the Medulla of the Tree. By Thomas Andrew Knight, Esq. F.R.S. in a letter addressed to the Right Hon. Sir Joseph Banks, Bart. G.C.B. P.R.S.—21. Observations on the Temperature of the Ocean and Atmosphere, and on the Density of Sea-water, made during a Voyage to Ceylon. In a Letter to Sir Humphrey Davy, LL.D.F.R.S. By John Davy, M.D.F.R.S.—22. Observations on the Genus Ocythoë of Ra-

finesque, with a Description of a new Species. By William Elford Leach, M.D.F.R.S.—23. The distinguishing Characters between the Ova of the Sepia, and those of the Vermes testaceæ, that live in Water, explained. By Sir Everard Home, Bart. V.P.R.S.—24. Astronomical Observations and Experiments, tending to investigate the local Arrangement of the celestial Bodies in Space, and to determine the Extent and Condition of the Milky Way. By Sir William Herschell, Knt. Guelp. LL.D. F.R.S.—25. Some Account of the Nests of the Java Swallow, and of the Glands that secrete the Mucus of which they are composed. By Sir Everard Home, Bart. V.P. R.S.—26. Observations on the Hirudo complanata, and Hirudo stagnalis, now formed into a distinct Genus under the Name *Glossopora*. By Dr. Johnson, of Bristol. Communicated by Sir Everard Home, Bart. V.P.R.S.—27. Observations on the Gastric Glands of the Human Stomach, and the Contraction which takes place in that Viscus. By Sir Everard Home, Bart. V.P. R. S.—28. On the Parallax of the fixed Stars. By John Pond, Esq. Astronomer Royal.

Dr. Crichton has just published, An Account of some Experiments, made with the Vapour of Boiling Tar, in the Cure of Pulmonary Consumption.

Mr. Abernethy has just published, his Third Course of Lectures, at the London College of Surgeons, on Mr. Hunter's Theory of Life, and on his Museum. It appears, that many of the most important discoveries, assumed by recent physiologists, have been plagiarized from that celebrated surgeon.

UNIVERSITY OF PENNSYLVANIA.

At a public Commencement held on the 10th of April, 1818, the Degree of Doctor in Medicine was conferred on the following gentlemen, who submitted the Theses, annexed to their respective names.

MASSACHUSETTS.

Edwards Holbrook,	On Cystirrhœa.

NEW-YORK.

William F. Seaman,	On Heat.

NEW JERSEY.

John Y. Clark,	Colchicum Autumnale.
George H. Burgin,	Modus Operandi of Medicines.
Lorenzo F. Fisler,	Dysentery.

PENNSYLVANIA.

Jacob Dewees,	Effects of Labour and Exercise.
Ezra Michener,	Secale Cornutum.
David Hutchinson,	Phthisis Pulmonalis.
Richard Harlan,	Vital Principle,
James S. Rich,	Perspiration.
John Carothers,	Calomel in the Diseases of Children.
David M. Kirkpatrick,	Amenorrhœa.
Hugh Campbell,	Erysipelas.
Hugh L. Hodge,	Digestion.
George B. Wood,	Dyspepsia.
Benjamin H. Coates,	Blisters.
J. Rhea Barton,	Certain Injuries of the Bones of Children.
David Francis Condie,	Digestive Process.
Thomas Vanvalzah,	Dysentery.
John R. Peckworth,	Cantharides as a Remedy in Amenorrhœa.
Thomas B. Cobean,	Hepatitis.
Ferdinand Strein,	Cholera Infantum.
Ellis Lewis,	Hepatitis.
John M'Culley,	Insanity and Hydrocephalus.
David Gallaher,	Chorea Sancti Viti.
James P. Scott,	Croup.

DELAWARE.

John Johnson,	Modus Operandi of Medicines.
Thomas J. Boyd,	Chorea Sancti Viti.

MARYLAND.

Richard Randall,	Diurnal Revolution of the Pulse.
David Craufurd,	Gastric Rheumatism.
James Dixon,	Rheumatism.

VIRGINIA.

Yelverton Bolling,	Phthisis Pulmonalis.
Nathaniel M. Miller,	Diurnal Revolution of the Pulse.
Pitman C. Spencer,	Nitric and Nitro Muriatic Acids.
Ryland Randolph,	Connection of the Stomach, &c.
James Cornick,	Vaccination.
Patrick H. Foster,	Dysentery.
Thomas Marlow,	Rheumatism.
Hector Harris,	Rubus Procumbens.
Joseph B. Anderson,	Winter Epidemic of Virginia.
Benjamin A. Jones,	Mammary Abscess.
William J. Holcombe,	Excretion and Retention.
William P. Mosely,	Medicinal Properties of Charcoal.
David Hobbs,	Winter Epidemic.
Edward T. Broadnax,	Modus Operandi of Cathartics.
James T. Royall,	Euphorbia Ipecacuanha.
Theophilus F. Gillian,	Hydrocephalus Internus.
Walter R. Johnston,	Ascites.
John Woods,	Dropsy.
William D. Coles,	Conversion of Diseases.
John Blair Morton,	Peripneumonia Typhoides.
James Horace Lacy,	Dysentery.
Anthony W. Smith,	Dyspepsia.
Nathaniel M. Osborne,	Menorrhagia.
Edwin Pegrain,	Epilepsy.
John H. Mason,	Secale Cornutum.
James Brown Wallace,	Sub-nitrate of Bismuth.
Samuel Webb,	Intermittent Fever.
William H. Wharton,	Vis Medicatrix Naturæ.
Fendall Gregory,	Jaundice.
John M. Patton,	Animal Life.
Charles Beale,	Dysentery.
William T. Minor,	Rheumatism.
John Du Val,	Fractures.
William P. Graham,	On the Structure and Functions of the Skin.
Thomas W. Jones,	Hepatitis.
Francis G. Taylor,	Pulse.
John F. W. Merritt,	Ophthalmia.
Samuel V. Watkins,	Cynanche Trachealis.

NORTH CAROLINA.

John T. Clanton,	Typhus Pneumonia.
Isaac Butler,	Hydrothorax.
Lewis M. Jiggilts,	Amenorrhœa.
John H. Atkinson,	Winter Epidemic, &c.

SOUTH CAROLINA.

Thomas Broughton,	Spiders' Web.
Joseph M. Dill,	Dyspepsia.
Thomas Legare, Jun.	Late Yellow Fever in Charleston.
James Ramsay,	Tetanus.
Alfred Brevard,	Winter Epidemic in South Carolina.
William B. Whitaker,	Scrofula.
John D. Magill,	Pertussis.

GEORGIA.

Thomas G. Janes,	Arthritis.
Richard M. Berrien,	Mania a potu.

KENTUCKY.

Benjamin Tompkins,	Influence of Spring, &c.
George Walker Call,	Menstruation.
William A. M'Dowell,	Suspended Animation.

MISSISSIPPI.

William Dunbar,	Hydrocele.

LOUISIANA.

Robert H. Sibley.	Dysentery.

The Honorary Degree of M.D. was conferred on COLEMAN ROGERS, adjunct Professor of Anatomy in the University of Transylvania, (Lexington, Kentucky.)

Abstract of the Bills of Mortality for the Town of Boston, from the first day of January 1817, *to the first of January* 1818; *from the Record of the Health Office.*

Deaths in each Month.	*Males.*	*Females.*	*Totals.*
January, - -	32	39	71
February, - -	43	24	67
March, - -	36	35	71
April, - - -	29	38	67
May, - - -	31	31	62
June, - - -	30	30	60
July, - - -	38	26	64
August, - -	82	69	151
September, - -	54	44	98
October, - -	41	58	99
November, - -	31	19	50
December, - -	22	25	47
Totals,	769	438	907

AGES.				
Under	1	Year		155
From	1	to	2	137
	2	to	5	64
	5	to	10	32
	10	to	20	41
	20	to	30	78
	30	to	40	99
	40	to	50	120
	50	to	60	63
	60	to	70	48
	70	to	80	43
	80	to	90	23
	90	to	100	3
	100	to	110	1
			Total,	907

The above mentioned Deaths were caused by the following Diseases and Casualties, viz.

Abscess, - - -	3	—— Puerperal, -	3
Angina Pectoris, -	2	—— Typhus, - -	57
Apoplexy, - - -	17	—— Rheumatic, -	7
Cancer, - - -	11	Jaundice, - - -	3
Casualty, - - -	7	Infantile Diseases, -	157
Cholera Morbus, -	6	Mortification, - -	9
Cholera Infantum, -	2	Old Age, - -	50
Consumption, - -	231	Palsy, - - -	6
Convulsions, - -	1	Quinsey, - -	6
Cynanche Trachealis,	1	Phrenitis, - - -	6
Cramp, - - -	3	Stone or Gravel, -	3
Croup, - - -	11	Scalds and Burns, - -	9
Dyspepsy, - - -	12	Spasms, - - -	3
Drowned, - -	13	Still-Born, - - -	33
Dysentery, - -	23	Suddenly, - - -	13
Fits, - - -	35	Suicide, - - -	3
Hanged, - - -	1	Intoxication, - -	3
Hæmorrhage, -	3	Rickets, - - -	1
Hooping Cough, -	19	Tetanus, - - -	1
Fever, Inflammatory, -	2	Unknown, - -	32
—— Bilious - -	12		
—— Pleurisy, -	4	Total,	907
—— Pulmonic, - -	47		

N. B. In the year preceding there were 904 deaths, including the deaths in the Alms-House, and in the Hospital at Rainsford's Island. During the year ending 31st December, 1817, there were 5 deaths on Rainsford's Island, and 173 deaths in the Alms-House.

Published by order of the Board of Health,

JAMES ROBINSON, Sec'ry.

Boston, February 2, 1818.

Annual Report of Deaths in the City and County of New York, during the year 1817. *Containing the Sexes, Ages and Diseases of the deceased Persons.*

Deaths in each Month.		*Totals.*	AGES.				
January,		214	Under	1	Year		599
February,		213	From	1	to	2	208
March,		188		2	to	5	142
April,		186		5	to	10	88
May,		209		10	to	20	146
June,		184		20	to	30	313
July,		215		30	to	40	314
August,		250		40	to	50	268
September,		256		50	to	60	178
October,		222		60	to	70	110
November,		195		70	to	80	96
December,		195		80	to	90	51
				90	to	100	13
				100	to	110	1
	Total,	2527				Total,	2527

The above mentioned Deaths were caused by the following Diseases and Casualties, viz.

Abscess,	13	Cholera Morbus,	34
Aneurism,	2	Colic,	6
Apoplexy,	46	Compression of the Brain,	1
Asphyxia,	2	Consumption,	574
Asthma,	13	Convulsions,	176
Burned or Scalded,	15	Cramp in the Stomach,	4
Cancer,	9	Diarrhœa,	47
Caries,	1	Drinking Cold Water,	2
Casualties,	12	Dropsy,	78
Catarrh,	7	——— in the Chest,	22
Childbed,	19		

Dropsy in the Head -	87	Locked-Jaw, - -	3
Drowned, - - -	38	Lumbar Abscess, -	1
Dysentery, - -	71	Manslaughter - - -	1
Epilepsy, - - -	3	Marasmus - - -	30
Erysipelas, - -	4	Measles, - -	20
Fever, - - -	12	Menorrhagia, - -	1
—— Bilious, -	4	Mortification, - - -	19
—— Hectic, - -	3	Nervous Disease, -	10
—— Inflammatory,	7	Old Age, - - -	96
—— Intermittent, -	10	Palsy, - - -	29
—— Puerperal, - -	1	Peripneumonia, - -	12
—— Putrid, - - -	1	Pleurisy, - -	27
—— Remittent, -	23	Pneum. Typhoides, -	7
—— Scarlet, - -	3	Quinsey, - -	9
—— Typhus, - -	162	Rheumatism, - -	4
—— Malignant, -	1	Rickets, - - -	2
Flux, Infantile - -	11	Rupture, - -	1
Fracture, - -	1	St. Anthony's fire, - -	2
Frozen, - - -	3	Schirrus of the Liver, -	3
Gout, - - -	5	Scrofula, or King's evil	14
Gravel, - - -	2	SMALL-POX, - -	14
Hemorrhage, - -	12	Sore Throat, - -	1
Hæmoptysis, - -	6	Spasms, - - -	8
Herpes, - -	2	Sprue, - - -	20
Hives, or Croup, - -	60	Still-Born, - -	118
Hysteria, - - -	2	Stone, - - -	1
Jaundice, - -	10	Strangury, - - -	1
Infanticide, - -	3	Sudden Death, - -	8
Inflammation of the Bladder	3	Suicide, - - -	15
—————— Bowels	54	Syphilis, - - -	7
—————— Brain,	18	Tabes Mesenterica, -	39
—————— Chest,	91	Teething, - -	22
—————— Liver,	41	Vomiting Blood, -	1
—————— Stomach,	7	Ulcers, - - -	5
Influenza, - - -	1	Unknown, - -	30
Insanity, - - -	11	Whooping Cough, -	11
Intemperance, - -	40	Worms, - - -	29
Killed or Murdered, -	9		
Leprosy - - -	1	Total,	2527

Of these there were—

Men,	763	
Boys,	673	
	——	1436
Women,	607	
Girls,	484	
	——	1091
Total,		2527

REMARKS.

The City Inspector respectfully reports to the Board, a statement of deaths in the City and County of New York, for the year 1817, amounting to two thousand five hundred and twenty-seven.

"In 1816, the number of deaths exceeded that of the last year by two hundred and twelve. The small pox in the former year was very fatal, having carried off one hundred and seventy-nine persons, whereas in the latter, fourteen only died of that complaint. This circumstance may account for the present decrease in deaths. It is to be lamented, however, that this fatal complaint has again visited our city; and if the exertions now employed fail in checking its fearful progress, it is to be apprehended, that the next year's report will present a melancholy picture of deaths, which might have been avoided, but for the persevering obstinacy of many who reject Vaccination.

"The Consumptive Cases, as usual, occupy a considerable space in the list of deaths, not, however, in a greater proportion than was formerly presented; the same causes continue to produce the same effects, in this widely extended complaint.

"It is a matter of great consolation, that our City has been exempted from that dreadful complaint, the Yellow Fever;—that, whilst other cities on the continent experienced its destructive visitation, we, under the precautionary measures of a vigilant Board of Health, aided by a superintending Providence, have escaped its ruthless devastation.

"It may not be improper to remark, that although the number of deaths were fewer the last year than in 1816, yet more persons died of Old Age than in the preceding year: ninety-six persons quietly departed, among whom was a woman born in this city, at the advanced age of 103; a proof, if any were wanting, that this climate is as friendly to longevity as any other, and that to imprudence alone it is attributable that we have not many such instances to record."

GEORGE CUMMING,
City Inspector.

New York, Jan. 12, 1818.

Statement of Deaths, with the diseases and ages, in the City and Liberties of Philadelphia, from the 1st of January 1817, to the 1st of January 1818.

DISEASES.	Under 1 year	From 1 to 2	From 2 to 5	From 5 to 10	From 10 to 20	From 20 to 30	From 30 to 40	From 40 to 50	From 50 to 60	From 60 to 70	From 70 to 80	From 80 to 90	From 90 to 100	From 100 to 110	Total
Aphthæ	3	1	1	0	0	0	0	0	0	0	0	0	0	0	5
Asthma	0	0	1	0	0	0	3	0	1	1	1	1	0	0	8
Abscess	0	0	1	0	0	5	2	2	0	1	0	0	0	0	11
Aneurism	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
Apoplexy	0	0	1	0	0	0	4	4	5	5	4	2	0	0	25
Atrophy	7	0	5	0	2	1	5	1	1	3	3	2	0	0	30
Angina Pectoris	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Burns	1	2	1	4	1	0	0	1	0	0	0	0	0	0	10
Cancer	0	0	0	0	0	1	5	5	1	5	0	0	0	0	17
Casualties	3	1	0	0	1	6	7	4	1	0	0	1	0	0	24
Catarrh	9	6	5	0	0	1	3	2	1	2	1	0	0	0	30
Child Bed	0	0	0	0	1	2	2	0	0	0	0	0	0	0	5
Cholera Morbus	89	28	9	4	0	3	1	0	0	1	2	0	0	0	137
Colic	0	1	0	0	1	1	4	2	1	2	0	0	0	0	12
Consumption of the Lungs	7	5	11	10	31	76	86	49	44	19	7	4	0	0	349
Convulsions	126	18	8	1	4	5	1	3	1	0	0	0	0	0	167
Concussion of the Brain	0	0	0	0	0	1	0	0	1	0	1	0	0	0	3
Cachexy	0	0	1	0	0	1	0	0	0	0	0	0	0	0	2
Contusions	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Decay	6	0	3	0	1	2	1	5	2	5	0	4	0	0	29
Diarrhœa	24	7	3	3	0	2	6	5	2	3	1	3	0	0	59
Dropsy	2	0	0	2	4	5	12	13	12	7	3	4	0	0	64
of the Breast	1	0	3	1	3	1	5	4	0	0	2	0	0	0	20
in the Brain	24	11	18	5	3	2	2	0	0	0	0	0	0	0	65
Drowned	0	0	0	8	5	5	10	2	1	0	0	0	0	0	31
Dysentery	6	4	2	1	2	8	2	2	3	2	0	1	0	0	33
Drunkenness	0	0	0	0	0	0	4	7	5	1	0	0	0	0	17
Drinking cold water	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2
Debility	17	0	7	0	1	5	11	8	12	7	8	3	2	0	81
Diabetes	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1
Epilepsy	0	0	0	0	0	0	1	0	2	0	0	0	0	0	3
Erysipelas	2	0	1	1	0	0	2	0	0	1	0	0	0	0	7
Eruptions	3	0	1	0	2	1	0	0	0	0	0	0	0	0	7
Fracture	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2
Fever	6	0	2	2	3	15	6	7	4	1	3	0	0	0	47
Intermittent	1	0	1	0	0	0	0	2	0	1	1	0	0	0	6
Remittent	2	2	2	0	1	4	5	2	1	0	2	0	0	0	21
Bilious	1	0	1	0	1	4	2	2	3	1	1	0	0	0	16
Nervous	0	0	0	0	0	2	1	3	0	0	0	0	0	0	6
Malignant	0	0	0	0	0	1	1	0	1	0	1	0	0	0	4
Typhus	1	0	0	4	5	23	23	17	7	9	3	2	1	0	95
Puerperal	0	0	0	0	1	9	3	1	0	0	0	0	0	0	14
Hectic	0	0	0	0	0	1	2	0	2	0	0	0	0	0	5
Inflammatory	1	1	0	0	0	0	0	0	0	0	0	0	0	0	2
Carried over,	342	87	88	46	73	192	225	157	116	77	44	27	3	1	1477

	Under 1 year	From 1 to 2	From 2 to 5	From 5 to 10	From 10 to 20	From 20 to 30	From 30 to 40	From 40 to 50	From 50 to 60	From 60 to 70	From 70 to 80	From 80 to 90	From 90 to 100	From 100 to 110	Total
Brought forward,	342	87	88	46	73	192	225	157	116	77	44	27	3	1	1477
Gangrene and Mortification	2	0	2	1	1	1	2	1	1	2	0	1	0	0	14
Gout	0	0	0	0	0	1	0	0	3	0	1	1	0	0	6
Hooping Cough	10	7	3	1	0	0	0	0	0	0	0	0	0	0	21
Hives	8	8	5	0	0	0	0	0	0	0	0	0	0	0	21
Hernia	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Hæmorrhage	1	0	1	0	1	3	3	2	1	0	0	0	0	0	12
Hydrophobia	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Inflammation of the Brain	1	3	4	3	0	2	6	1	0	0	0	1	0	0	21
of the Lungs	3	0	1	1	1	0	0	1	0	0	1	0	0	0	8
of the Stomach	7	5	2	0	1	6	6	3	0	0	1	0	0	0	31
of the Bowels	6	2	2	2	2	4	3	4	2	1	1	0	0	0	29
of the Liver	0	1	0	0	1	5	6	5	5	1	2	0	0	0	26
of the Bladder	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2
Insanity	0	0	0	0	0	2	7	6	6	2	0	0	0	1	24
Jaundice	2	0	0	0	0	0	0	0	0	0	2	0	0	0	4
Lethargy	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2
Locked Jaw	0	0	0	0	2	2	4	1	0	0	0	0	0	0	9
Old Age	0	0	0	0	0	0	0	0	0	2	14	26	8	0	50
Pleurisy	11	7	2	0	3	9	19	16	11	6	2	2	0	0	88
Palsy	0	1	0	1	1	1	3	5	4	6	8	2	0	0	32
Rheumatism	0	0	0	1	1	1	0	4	0	1	1	0	0	0	9
Scrofula	2	2	1	2	1	3	2	2	0	1	0	0	0	0	16
Sore Throat	2	2	2	2	1	0	0	1	0	0	0	0	0	0	10
Still Born	110	0	0	0	0	0	0	0	0	0	0	0	0	0	110
Suicide	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2
Sudden	1	1	0	0	0	4	11	5	4	4	3	0	0	0	33
Syphilis	0	0	0	0	0	0	5	1	0	0	0	0	0	0	6
Stone	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2
Suffocation	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
Scirrhus	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2
Small Pox natural	6	2	4	9	6	15	10	0	0	0	0	0	0	0	52
Spina Bifida	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Teething	14	5	6	1	0	0	0	0	0	0	0	0	0	0	26
Tabes	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Ulcers	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Worms	2	3	8	1	0	0	0	0	0	0	0	0	0	0	14
Unknown	14	2	2	1	1	4	11	7	7	2	1	0	0	0	52
Total,	548	138	134	73	96	256	325	222	162	106	84	61	11	1	2217

NOTE. Of the above there were 748 males of twenty years and upwards, 438 under twenty years: of females, 545 of twenty years and upwards, 379 under twenty years; and 107 children, principally under one year, whose sex is unknown.

Deaths in each month of the above period.

	Adults.	Children.	*Total.*
January	98	59	157
February	89	81	170
March	106	79	185
April	131	76	207
May	140	73	213
June	119	76	195
July	86	113	189
August	107	123	230
September	125	108	233
October	86	60	146
November	94	48	142
December	112	38	150
Total	1293	924	2217

By order of the Board of Health,

JOSEPH PRYOR, Clerk.

Health Office, January 29th, 1818.

Abstract of the Bills of Mortality, for the City and Precincts of Baltimore, from the 1st January, 1817, to the 1st January, 1818.

Deaths in each Month.	*Males.*	*Females.*	*Totals*
January, - -	56	40	96
February, - -	55	50	105
March, - -	41	34	75
April, - - -	36	37	73
May, - - -	57	39	96
June, - - -	52	37	89
July, - - -	61	44	105
August, - -	127	86	213
September, - -	80	75	155
October, - - -	81	58	139
November, - -	43	32	75
December, - -	57	45	102
	746	577	1323

AGES.				
Under	1	Year		430
From	1	to	2	141
	2	to	3	35
	3	to	5	24
	5	to	10	39
	10	to	20	108
	20	to	30	198
	30	to	40	132
	40	to	50	90
	50	to	60	39
	60	to	70	24
	70	to	80	34
	80	to	90	23
	90	to	100	4
	100	to	110	2
			Total,	1323

The Diseases and Casualties, causing the above Deaths, were:

Apoplexy, - - -	5	Jaundice, - -	1
Asthma, - - - -	2	Inflammation, - -	1
Cancer, - - -	5	——— of the Liver,	7
Casualty, - - -	35	Insanity, - - -	1
Child-bed, - - -	14	Locked-Jaw, - -	2
Cholera Morbus, - -	214	Mortification, - -	13
Colic, Bilious, - -	7	Mumps, - - -	1
——— Cramp, -	2	Murder, - -	3
Consumption, - -	239	Old age, - - -	57
Croup, - - -	35	Palsy, - - -	10
Dropsy, - - -	36	Pleurisy, - - -	67
——— Head, - -	6	Poisoned, - - -	1
Drowned, - - -	38	Quinsey, - - -	3
Dysentery, - -	10	Rheumatism, - -	3
Fever, Bilious, - -	78	Sore Throat, - -	1
—— Nervous, -	2	St. Anthony's Fire, -	4
—— Typhus - -	26	Still-Born, - -	117
—— Inflammatory, -	4	Sudden Death, - -	11
—— Intermittent, -	1	Suicide, - -	5
Fits, - - -	98	Thrush, - - -	1
Flux, - - -	5	Teething, - - -	9
Gravel, - - -	4	Unknown, - -	59
Hæmorrhage, - -	3	Worms, - - -	61
Hives, - - -	2		
Hooping Cough, - -	14	Total,	1323

Of this aggregate of 1323, there were 390 coloured persons.

By order of the Board of Health.

SAMUEL YOUNG, Sec'ry.

Statement of Deaths, with the Diseases and Ages, in the City of Charleston, S. C. from the first of October, 1816, to the first of October 1817.

Deaths in each Month.	*Males.*	*Females.*	*Totals.*
October, - -	47	24	71
November, - -	40	25	65
December, - -	39	32	71
January, - -	52	29	81
February, - -	39	35	74
March, - -	44	20	64
April, - - -	31	26	57
May, - - -	36	36	72
June, - - -	38	33	71
July, - - -	89	45	134
August, - -	138	70	208
September, - -	176	105	281
Totals,	769	480	1249

AGES.				
Under	3	years		249
From	3	to	10	129
	10	to	20	109
	20	to	30	283
	30	to	40	167
	40	to	50	126
	50	to	60	74
	60	to	70	58
	70	to	80	32
	80	to	90	16
	90	to	100	4
	100	to	110	1
	110	to	120	1
			Total,	1249

The above mentioned Deaths were caused by the following Diseases and Casualties, viz.

Abscess, - -	4	Debility, - - -	106
Accident, - - -	27	Diarrhœa, - - -	45
Aneurism, - -	1	Dropsy, - - -	76
Apoplexy, - - -	7	Drowned, - - -	8
Asthma, - - - -	9	Dysentery, - - -	16
Atrophy, - - -	1	Epilepsy, - - -	2
Cancer, - - - -	3	Erysipelas, - - -	1
Child-bed, - - -	15	Executed by law, - -	1
Colic, - - - -	4	Fever, - - - -	36
Cholera Morbus, - -	3	—— and Ague, - -	1
Consumption of the Lungs,	157	—— Bilious, - -	78
		—— Catarrhal, - -	9
Convulsions, - -	32	—— Nervous, - -	15
Cramp in the Stomach, -	2	—— Worms, - -	58
Croup, - - -	7	—— YELLOW,* -	232

* As the Yellow Fever had not ceased its ravages at the time of closing the foregoing Abstract, those who fell victims to that calamity on and after the first day of October, 1817, must of necessity be numbered in the next year's statement, which may give rise to erroneous and injurious impressions abroad, although not a case of it may occur in the year 1818. This and other considerations, induce the Editor of the American Daily Advertiser, respectfully to suggest to the Gentlemen composing the Board of Health of the City of Charleston, the propriety of commencing their Abstract, as is done in other Cities of the United States, on the *first day of January*, and closing it on the

Fistula,	1	Rheumatism,	4
Hæmorrhage,	3	Rupture,	1
Jaundice,	1	SMALL-POX,	85
Inflammation of the Lungs,	4	Sore Throat,	8
——— Brain,	3	Still-Born,	9
Influenza,	11	Sudden Death,	1
Insanity,	6	Suicide,	2
King's evil,	3	Teething,	52
Liver Complaint,	3	Thrush,	2
Leprosy,	2	Unknown,	3
Locked-Jaw,	25	White swelling,	2
Mortification,	1	Whooping Cough,	1
Old Age,	47		
Palsy,	7	Total,	1249
Pleurisy,	6		

Of the above there were—

White Males,	415	
White Females,	194	
		609
Black Males,	354	
Black Females,	286	
		640
Total,		1249

HEALTH OFFICE, October 17th, 1817.

By order of the Board,

JAMES A. MILLER,

Acting City Inspector.

Examined and found correct.

DANIEL STEVENS, *Chairman.*

last day of December, in each year. If this suggestion meets the approbation of the Board of Health, would not this be the proper season to publish a statement of the Deaths which occurred in Charleston during the year 1817.